TECHNOLOGY DEPT.

First Copy

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

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DEC 5 - 1931

Free Wheeling, Syncro-Mesh Feature New Chevrolet

CHRYSLER '31 DEALER SALES EXCEED 1930

Shipments to Dec. 1 Were 90,706 to 81,957 Last Year

DETROIT, Dec. 3.—Shipments to Chrysler Sales Corporation dealers for the first eleven months of this year show an increase of 10.7 per cent. over the same period in 1930, according to a statement authorized here today by J. W. Frazer, general sales manager of the company.

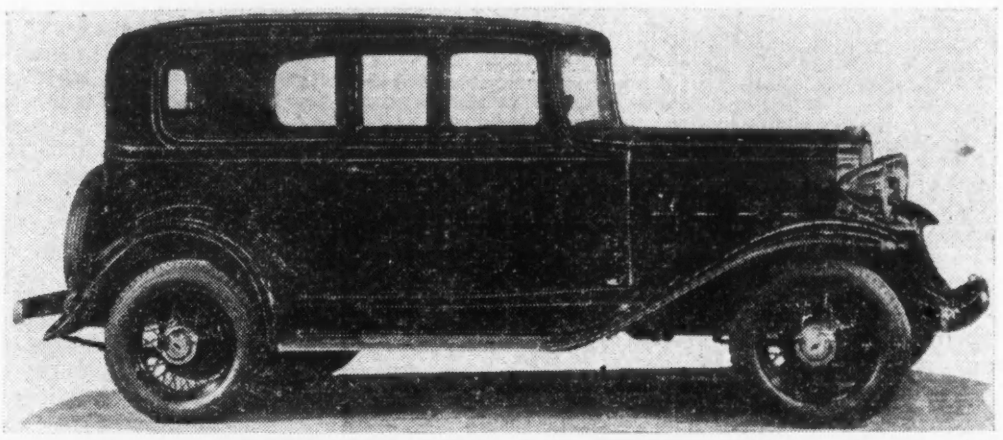
Total shipments up to December 1 of this year were 90,706 as compared with 81,957 for the same period in 1930.

Shipments of Chrysler Sixes for this same period this year totaled 33,467 as compared with 25,059 for the first eleven months of 1930, an increase of 33.6 per cent., the statement said.

ROY HAYES HEADS J. STIRLING GETCHELL PUBLICITY STAFF

Detroit, Dec. 3.—Announcement is made that the publicity department of J. Stirling Getchell, Inc., of New York and Detroit, which is taking over the De Soto advertising account, will be headed by Roy C. Hayes, for the past five years with Campbell - Ewald, handling first Chevrolet publicity and more recently Oakland-Pontiac.

New 1932 Chevrolet Coach



N. A. C. C. Sees Industry Pointed For Upturn; Nov. Output 65,562

NEW YORK, Dec. 3.—The preparation of the motor industry for the upturn which is expected with its introduction of 1932 models was seen in the November production report submitted Wednesday at the meeting of the board of directors of the National Automobile Chamber of Commerce.

Estimates based upon reports of factory shipments placed the month's production at 65,562 units, a decrease of 20 per cent. under October and 54 per cent. under November, 1930.

The industry's output for the eleven months was placed at 2,343,834 cars and trucks, or 30 per cent. under the production for the same period last year.

Discussion of reports relating to the possibility of measures being introduced for Federal taxes directed against motor vehicle purchasers or owners brought from the directors a reaffirmation of their opposition to any measures which would discriminate against highway users.

Plans for the 1932 national auto-

(Continued on Page 11)

$2,600,000 TRUCK ORDER BY N. Y. CITY GOES TO WHITE CO.

Cleveland, Dec. 3.—White Motor Company has received an order from the city of New York for 774 heavy duty trucks, believed to be the largest single truck order placed by any one since the World War. The order is estimated roughly to amount to more than $2,600,000.

The city is buying the trucks built to its own specifications for use in refuse and garbage collection and for snow removal. Addition of these trucks will increase fleet of White trucks owned by the city to 1,600.

G. M. EXTENDS TRUCK RENTALS TO BALTIMORE

Pontiac, Dec. 3.—Extension to Baltimore of the Sterrett Operating Service, under which trucks with complete service are leased, is announced by the General Motors Truck Company. The Sterrett Operating service, a subsidiary of the truck company, has been operating successfully for a long time in Washington and Richmond, Va. In extending it to Balimore, it will function as part of the operations of the Baltimore branch of the truck company.

Fred Fisher has been chosen as manager. John A. Sterrett, head of the service bearing his name, is

(Continued on Page 11)

IMPROVED TYPE ENGINE MOUNTING AND NEW FRAMES

Downdraft Carburetion; Counterbalanced Crank Shafts; Many Other Improvements

DETROIT, Dec. 3.—In presenting its 1932 line to the public, Chevrolet shows many important developments in design and performance characteristics. The improvements have been so many and far-reaching that they justify the manufacturer's statement that this model represents the most important Chevrolet development since the change from the four to the six-cylinder car.

Undoubtedly the outstanding feature of this new Chevrolet is the fact that free wheeling in connection with a syncro-mesh transmission is offered in a car falling in this price class.

The engine has not been changed basically, but down-draft carburetion is now used with a counterbalanced crankshaft and an improved type of engine mounting. It is claimed that these refinements have added 20 per cent. to the power output of the plant, giving a maximum speed range of between 65-70 miles, faster acceleration and smoother operation.

The clutch has been redesigned to meet the needs of the revised power plant.

The oiling system of this new Chevrolet has been redesigned to give pressure lubrication to the main bearings, camshaft bearings and valve stems. The oil pump has been increased in size. Timing of

(Continued on Page 2)

G. M. Holdings in 9 Months Gain $85,000,000, Says Sloan

NEW YORK, Dec. 3.—A great acceleration in technical progress will be one of the benefits obtained by the automotive industry from the current period of business depression, Alfred P. Sloan, Jr., president of General Motors, says in a statement accompanying the corporation's detailed financial report for the third quarter of this year, released today.

This report reveals that the corporation's holdings of cash, United States government and other marketable securities, as of September 30, 1931, totaled $264,107,166, as against $179,037,071 at the beginning of the year, a gain of more than $85,000,000. Net working capital of the corporation, as of September 30, 1931, totaled $318,526,557, as compared with $281,037,636 as of December 31, 1930, a gain of $37,488,921.

Mr. Sloan's statement follows:

"The condensed consolidated balance sheet of General Motors Corporation as of September 30, 1931, is submitted herewith, together with a comparison of corresponding items at December 31, 1930; also a summary of consolidated income for the third quarter as well as for the first nine months of the current year, together with a comparison of the corresponding periods of the year 1930.

"Net earnings of General Motors Corporation, including equities in the undivided profits or the losses of subsidiary and affiliated companies not consolidated, for the third quarter ended September 30, 1931, were $13,333,214. After deducting dividends of $2,344,152 on the preferred stock, there remains $10,989,062 earned on the common stock outstanding, or the eqdivalent of 25 cents per share. This compares with earnings of $25,470,697 for the third quarter of last year, which, after preferred dividends, left a balance of $23,108,728 available for the common stock, or the equivalent of 53 cents per share.

"Net earnings for the nine months ended September 30, 1931, were $97,455,390. After deducting dividends of $7,031,691 on the preferred

(Continued on Page 3)

TIRE PRICE CUT MAY LEAD TO PROBE BY U. S.

New York, Dec. 3.—According to information from Akron, O., to the rubber trade here last night, the price slashes inaugurated this week by a number of manufacturers may lead to a Federal Trade Commission inquiry.

Executives of several leading tire manufacturers, the advices state, are conferring on a proposal to formally ask such an inquiry by the commission, charging that the price cuts were made for the purpose of forcing some of the weaker companies out of the industry, which

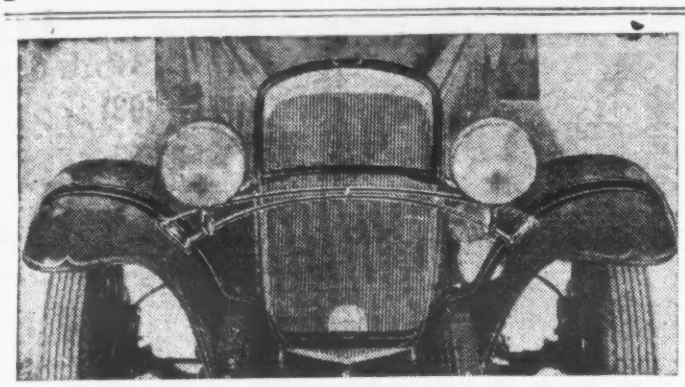
(Continued on Page 6)

Late News Flashes

Detroit, Dec. 3.—Wayne county registrations for November did not hold up the October's as was expected. In the month just ended 1,349 passenger cars were titled as compared with 1,882 in the month preceding. In November, 1930, the count was 1,768. Truck sales, too, dropped from 293 in October, to 179 in November. In November last year there were 409 titled. In the passenger car field Ford again held the lead, with Chevrolet and Plymouth following.

* * *

Pontiac, Dec. 3.—Appointment of J. C. Compton as manager of the General Motors Truck Company branch in Philadelphia and of W. A. Casey as manager of the Detroit branch is announced by O. L. Arnold, vice-president, directing sales. Compton, who has been manager of the Detroit branch for the past years, relieves P. E. O'Connor, who has been acting as branch manager in Philadelphia. Casey, who has been assistant manager of the Detroit branch, succeeds Compton.



PHANTOM VIEW of structural units in new front end assembly of 1932 Chevrolet Six

Free Wheeling and Syncro Mesh Feature '32 Chevrolet

(Continued From Page 1)

the intake valve has been advanced 8 degrees in relation to flywheel rotation.

The entire forward end of the frame has been strengthened. A fifth cross member has been added, under the over-running clutch housing at the rear of the transmission.

A number of changes in the bodies have been made. The radiator shell has been lengthened and the vertical lined grille has been built in. Louvres have been replaced by doors in the hood. Closed bodies are stream-lined. The sunvisor has been eliminated from the outside and built inside the body and made adjustable. A single chromium-plated handle on each side operates

(Continued on Page 8)

G. M. ZONE CHIEFS REPORT IMPROVED CANADIAN OUTLOOK

Toronto, Canada, Dec. 3.—With most encouraging reports of better business trends throughout Canada, based mainly on enthusiastic public acceptance of the 1932 McLaughlin-Buick models recently announced. General Motors zone managers from all parts of the Dominion have gathered at the factory at Oshawa to discuss sales plans for additional new cars shortly to be announced by General Motors in Canada.

Public interest in the 1932 McLaughlin-Buick models have exceeded all expectations and early sales of the new car are considerably greater than first estimates. Zone managers from Western Canada report improved business conditions in the automobile field.

Meetings at the factory were addressed by William C. Herring, general sales manager; C. E. McTavish, assistant general sales manager, and H. M. Ireland, advertising manager. Zone managers in attendance included: T. G. Applegath, Vancouver; E. J. Umphrey, Calgary; M. L. Fitzgerald, Regina; Harry Edney, Winnipeg; Harry C. Lecky, London; E. R. Birchard, Toronto; E. A. Everson, Montreal and M. F. Smith, St. John.

SPARKS from DETROIT

Prosperity's Tail-Light

* * *

G. M.'s Windows

* * *

Winter Service Letter

* * *

Chris Sinsabaugh—Detroit Editor

MEBBE the encouraging financial report of the inter-insurance exchange of the Automobile Club of Michigan is prosperity's tail-light flashing just ahead of us. Jack Ramsey, in charge of this insurance exchange, advises that in the ten months since the first of the year the surplus has increased from $2,163,350 to $2,583,265 and that the assets in that period increased from $4,492,705 to $4,617,934. Securities owned by the organization have grown in value from $3,991,209 to $4,069,929.

* * *

THAT'S Ramsey's story in a nutshell, and it is interpreted to mean that despite the depression the Detroit public at least has not lost its interest in automobiles. It also brings up the constantly growing influence of the motor clubs of the country among car owners. Not only do these organizations aid in legislative work, the development of highways and in touring service, but they also take on their shoulders the insurance end, with a view to handling risks for their members in a money-saving way.

The first to start this sort of service was the Automobile Club of Southern California, the Los Angeles organization, which opened its exchange in 1912. Two years later the Automobile Club of Northern California followed suit, and in 1916 the Chicago Motor Club, my alma mater, came into the insurance picture, which resulted in the last named becoming one of the largest clubs in the country.

* * *

MODESTLY Jack Ramsey cut in in March, 1922, and in the first ten months the Detroit exchange wrote 5,000 policies and took in $257,000 in premiums, considered a remarkable feat in insurance circles. Since that time, with the exceptions of 1929 and 1930, the exchange has increased its business each year. At the present time it has out 65,000 policies, all members of the Automobile Club of Michigan.

One thing noticeable this year is that while the number of policies has increased, the premium income has been cut because of the falling off in sales of new cars, which means that the valuations on the old ones necessarily have been decreased. A cheering note is that in November the Automobile Club of Michigan wrote 1,400 memberships, 200 more than in the same month in 1930. Another flash of prosperity's tail-light.

* * *

ALWAYS indicative that G. M. is about to spring something new, is when the plate glass windows of one of the stores on the ground floor of the General Motors Building are whitened so passersby cannot look within. This time it is Chevrolet. Public interest is being whetted this way, so that when the windows are washed Saturday the 1932 Chevrolet will be visible in all its glory.

Other effective advance publicity methods are noted around town. At Eight-Mile Road and Woodward, the main artery leading out of the city to the north, there is a huge electric sign which is in operation at night. It's the face of a man winking. Each time he winks a voice comes through a microphone, "Keep your eye on Chevrolet."

This being a red-light corner, the sign stops you. In fact, the public has been so interested that four traffic accidents have occurred there, necessitating a reduction in the number of broadcasts. It was found that motorists, hearing the voice, would poke their heads out of the windows of their cars to see where it came from, forgetting they were driving and causing mishaps. Things are running more smoothly now, however.

* * *

TEN working days have convinced Pat O'Dea, Graham-Paige distributor here, that his winter-service letter is paying out beyond his most optimistic hopes. This campaign, it will be remembered, is based on an offer of free greasing, with the idea of getting Graham-Paige owners to come in and get set for the winter.

The column is pleased to report to its board of directors that up to this writing more than 300 have taken the free greasing course, of which number from 50 to 60 per cent. has been buying service, too. Last Tuesday was the big day so far, when, of the ninety-five coming to the service station, eighty-six had repair work done. Many accessory sales also are reported.

"Full-jewelled" Transportation in the 1932 Chevrolet

A watch with 17 jewels will give maximum years of service. High quality New Departure Ball Bearings are the "jewels" of the Chevrolet. Naturally they will give it longer life than a car with less ball bearings or with cheaper bearings.

In the new Chevrolet with its 15 New Departures you have every reason to expect greatly delayed depreciation and low-cost mileage. New Departures give "full-jewelled quality" to every 1932 Chevrolet.

THE NEW DEPARTURE MANUFACTURING CO.
BRISTOL, CONNECTICUT

NEW DEPARTURE BALL BEARINGS

Classified Advertising

Classified Rates 5c Per Word

Automobile Accessories Wanted

Malco windshield wiper wanted. Will pay good price. Camp-bell-Ris, 202 East 44th St., New York city.

G. M. Holdings in 9 Months Gain $85,000,000, Says Sloan

(Continued From Page 1)

stock, there remains $90,423,699 available for the common stock or the equivalent of $2.08 per share. This compares with operating earnings of $123,826,052 for the first nine months of last year, or the equivalent, after preferred dividends, of $2.68 per share. However, these figures for 1930 do not include a non-operating, non-recurring profit of $9.517,943 realized in the second quarter from the sale to General Motors Management Corporation of 1,375,000 shares of common stock of the General Motors Corporation. Including this non-operating, non-recurring profit, total earnings for the first nine months of 1930 were $131,403,125, or the equivalent, after preferred dividends, of $2.85 per share on the common stock outstanding.

"Cash, United States government and other marketable securities at September 30, 1931, amounted to $264,107,166, compared with $179,031,071 at December 31, 1930, and with $202,064,960 at September 30, 1930. Net working capital at September 30, 1931, amounted to $318,526.557, compared with $281,037,636 at December 31, 1930, and with $265.777,740 at September 30, 1930.

"The above statistical statement of the corporation's position, as a result of the third quarter operations, demonstrates that its financial position has been well maintained during the period. Cash and cash items were approximately $264,000,000, which was $62,000,000 greater than at the close of the period a year ago, and approximately $85,000,000 greater than at the end of last year. Net working capital position likewise has been well maintained.

"During the third quarter, ended September 30, 1931, General Motors dealers in the United States delivered to consumers 206,670 cars, compared with 242.378 cars in the corresponding period of 1930. Sales by General Motors operating divisions to dealers in the United States for the third quarter amounted to 189,285 cars, compared with 216,757 cars in the corresponding period of 1930. Total sales to dealers, including Canadian sales and overseas shipments, amounted to 215,649 cars, compared with 244,378 cars in the corresponding period of 1930.

"For the nine months ended September 30, 1931, General Motors dealers in the United States delivered to consumers 800,234 cars, compared with 900,207 cars in the corresponding period of 1930. Sales by General Motors operating divisions to dealers in the United States amounted to 814,959 cars, compared with 896,329 cars in the first nine months of 1930. Total sales to dealers, including Canadian sales and overseas shipments, amounted to 939,846 cars, compared with 1,008,597 cars in the corresponding period of 1930.

"Both sales of cars to dealers and consumers were adversely affected during the period under review by the fact that certain car divisions in the third quarter last year introduced new models, whereas no such model changes were made in the third quarter this year. Entirely aside from that fact, all the corporation's operations have been, as is to be expected, adversely affected by the general trend of business which, during the period under review, has continued on a declining trend, not only in the domestic market but more importantly in all overseas markets as well.

"Your attention has been called in previous quarterly reports to the fact that the corporation was enjoying during the current year a substantial increase in the percentage of the available business. This percentage has been well maintained throughout the year and in all probability the year will record as large a percentage of total business as the corporation has as yet enjoyed, thus demonstrating the competitive strength of the corporation's products.

"Notwithstanding the very subnormal rate of operations at which the automotive industry in common with all other industries is operating, I might at this time reaffirm the statement that I have made before to the effect that the motor car is today in the strongest position in its history, from the standpoint of having become an economic necessity. The fact that next to food, shelter and clothing, the motor car has the first lien on the family budget, remains unchallenged. The fact that gasoline consumption—a measure of car usage—will have reached in all probability in 1931 the largest volume in history, demonstrates that, despite the economic conditions prevailing, car mile inventory is being consumed, which means that renewal of that inventory in the form of increased purchases of motor cars must be only a question of time. I am strongly of the opinion that, as confidence in the future increases and a turn in the general trend occurs, the automotive industry will contribute importantly in accelerating the return to a more normal state of affairs.

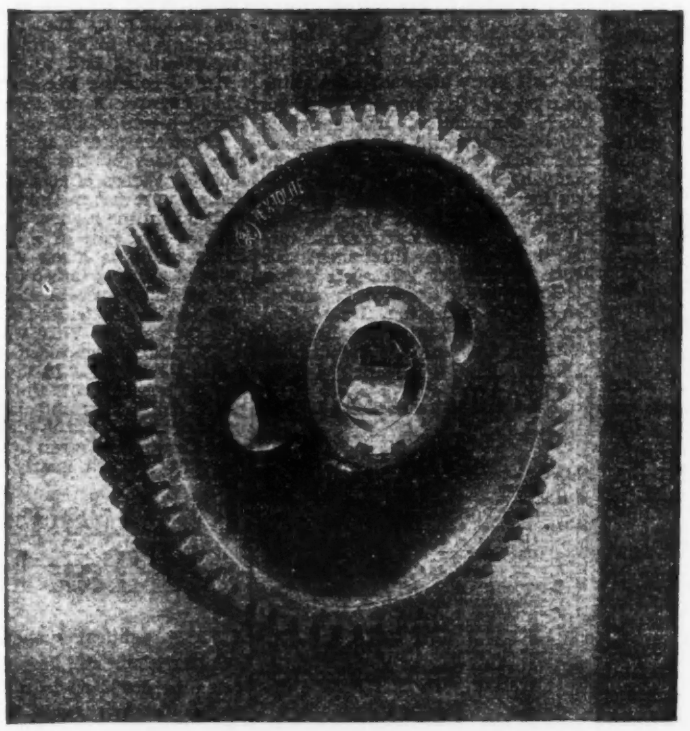
"I have mentioned in previous statements that a situation such as we are passing through has both its destructive and its constructive sides. As to the former, we are all too familiar with the distress, disappointment and suffering that are essential parts of such a situation. From the standpoint of the latter it must be recognized that there has been brought about an elimination of the inefficiency, waste and false thinking that accompany periods of intense and prolonged prosperity and inflation. Equally important is the fact that out of the situation problems have arisen, the recognition of which is sure to mean progress in our industrial development. Out of it also is bound to come a great acceleration in technical progress. All of these factors mean nothing more or less than the building of the foundation for a greater and, I believe, a more stable prosperity."

STUDEBAKER DEALERSHIP ON WEST COAST SOLD

San Francisco, Cal., Dec. 3 (UTPS).—The Chester N. Weaver Studebaker dealership in San Francisco has been purchased by Southern California interests headed by J. R. Townsend, whose firm has sold the Studebaker line for several years in San Diego. The new San Francisco dealership will be known as the Jeff R. Townsend Company.

Prefaces Sales With Teaser

THE IRA C. JONES COMPANY, Studebaker distributor, Newark, N. J., finds it advantageous to preface its used car sale advertisements with an announcement a day or so in advance, calling attention to the fact that it is about to stage a sale. Above are examples of this concern's method of advertising



LIGHT
RESILIENT
QUIET

Precise Timing for 50,000 Miles

TEXTOLITE TIMING GEARS

A GOOD nonmetallic gear—made of a material only half as dense as aluminum—has the lowest possible effective mass and is subject to the lowest acceleration and deceleration stresses.

A good nonmetallic gear is nearly 40 times as resilient as a steel gear. This resilience greatly prolongs the life of the drive.

A good nonmetallic gear is soft and nonresonant and eliminates all metal-to-metal clashing.

A good nonmetallic gear wears less than 0.001 in. in 20,000 miles. Displacement between camshaft and crankshaft is negligible. The initially perfect timing is maintained for 50,000, often 100,000, miles.

A good nonmetallic-gear timing drive betokens conscientious, uncompromising manufacture throughout the car.

830-111

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday and Monday by
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION,
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FRIDAY, DECEMBER 4, 1931

ADVERTISING AND BUSINESS HEADQUARTERS

Harry A. Tarantous, Business Manager. 350 Hudson St., New York, N. Y.
George M. Slocum, Manager Detroit Bureau, 427 Fisher Building, Detroit, Mich., phone Trinity 2-3500; Willard R. Cotton, Western Manager, 333 North Michigan Ave., Chicago, Ill., phone Andover 2400; Metz B. Hayes, New England Manager, Little Building, Boston, Mass.; Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1037 Henry Building, Seattle, Wash. Address ALL advertising and business correspondence to 350 Hudson St., New York city.

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Statistical Department (registrations and specifications), P. J. Robas, statistician; Engineering Department, A. Benson Carleton, technical editor; Merchandising Department, Charles S. Zack, editor. Art Department, John Bauerfeld, director.
Detroit Bureau, Chris Sinsabaugh, editor, 427-8 Fisher Building, Detroit, Mich. Telephone Trinity 2-3500 Contributing editor, John G. Wetmore.

Expert Automotive Opinion

IN recent statements by acknowledged leaders in the automotive field there is to be found a definite understanding of the spirit in which our industry is going into the year 1932. This spirit may be summed up as one of conservative optimism, with a belief that volume of sales is going to be greater than that of 1931 to a moderate extent. There is no suggestion that with the coming year we are going to shake loose from depression and plunge into another era of reckless prosperity. And reckless prosperity is exactly what we "enjoyed" during part of 1929.

Henry Ford has expressed himself as feeling that there will be business in sufficient volume during 1932 "to keep honest organizations afloat." If we may venture to analyze that phrase in the light of Mr. Ford's general position, we would say that he expects companies which have something worth while to sell and merchandise their products effectively to have better business in the coming year.

L. A. Miller, president of Willys-Overland, and a keen student of automotive developments, believes that today we have the need to buy, but a diminished buying power. "If economic conditions would improve in 1932 so that an unmistakable upturn in business could be generally noticed, I firmly believe the automotive industry would show a volume in excess of 3,500,000 cars and trucks."

A. R. Erskine, president of Studebaker, has said that his company expects to get a larger volume of business in 1932 than it will in 1931. "Likewise, I believe the total sales for the automobile industry in 1932 will be greater than in 1931," says Mr. Erskine. "In making this statement I am taking into account the cumulative obsolescence in cars and trucks and consequent greater demand being created despite lower purchasing power."

Charles W. Nash, president of Nash Motors, has recently said: "I believe the automobile industry will produce more cars and trucks in 1932 than this year. The increase may be small, possibly 10 or 15 per cent., but it will be an increase. There is a general inclination in the industry on the part of manufacturers to lend greater co-operation to dealers than in many years. Dealers are the backbone of the industry, as I have persistently maintained, sometimes possibly to the annoyance of other manufacturers. Such co-operation means that the dealer is in a better position to sell products and when he sells more it means larger output by manufacturers."

It is obvious that the feeling among manufacturers that 1932 is going to register the initial step upward out of the depression is based on cumulative obsolescence, a powerful factor, on improved condition in the dealer field and finally on improvement in the general economic situation. The modesty of the claims advanced for improvement make them all the more compelling.

An Indictment

IN a recent address on our anti-trust laws, Dr. Walton H. Hamilton of Yale University presented an interesting view on this class of hobbling legislation.

"The Sherman act as a device for keeping prices down to cost of production has failed," said Dr. Hamilton, "and in many industries the consumer is left without protection. In other industries over-competition has resulted in capricious prices and bankrupticies to the detriment of the producers. It has failed to provide a first line of industrial defense, at least enough of stability in industrial conditions to allow to the dependents of the industry a minimum living and a chance to find out a way of life.

"The failure is in no small sense due to current business facts which are out of harmony with the assumptions underlying competitive theory. The failure is most significant in industries marked by large overhead, surplus capacity and diminishing unit cost." And surely those last qualifications apply definitely to the automotive industry.

REGULATORY FETTERS SEEN AS TRANSPORT HANDICAP BY LOOMIS

Lancaster, Pa., Dec. 3.—"Proposals to place motor trucks and buses under additional regulation and taxation will only result in restricting the advantages of highway carriers as essential instruments in the nation's production and distribution machinery," declared Edward F. Loomis, secretary of the motor truck division of the National Automobile Chamber of Commerce before the Manufacturers Association Traffic Club of Lancaster.

Reviewing trends in legislation and taxation of trucks and buses, Mr. Loomis stated that to an alarming degree this legislation was designed for no other purpose than to deny shippers and consumers the economy and convenience of highway carriers.

"Under these circumstances, there is a need among state legislators for an enlightened attitude that will reflect the true extent to which all forms of commerce and industry depend upon motor vehicles," Mr. Loomis declared. "Only in this way can the privileges of continued highway use be preserved."

GEO. W. McGOWAN LEAVES AMERICAN BOSCH CORP.

Springfield, Mass., Dec. 3.—George W. McGowan, for the past five and one-half years assistant advertising manager of the United American Bosch Corporation, has resigned. Mr. McGowan will become associated with the George McKiernan Company of Chicago, as representative for this state. The McKiernan Company is a large printing organization serving several manufacturing organizations throughout the East. A. Morrier will succeed Mr. McGowan with the United American Bosch Corporation. He was formerly associated with the Leeds & Northrup Company of Philadelphia.

COMING EVENTS

NOVEMBER

28-Dec. 9—**Brussels, Belgium.** Automobile Salon.
29-Dec. 5—**New York, N. Y.** Automobile Salon, Hotel Commodore.
30-Dec. 4—**New York City.** American Society of Mechanical Engineers, annual meeting.

DECEMBER

7—**Atlantic City, N. J.** Fabric Auto Equipment Association, meeting.
7-12—**Atlantic City, N. J. Motor and Equipment Association and National Standard Parts Association, Joint Trade Show.**
9-11—**Atlantic City, N. J.** American Insitute of Chemical Engineers, meeting.

JANUARY

9-16—**New York City.** National Automobile Chamber of Commerce. National Automobile Show.
9-17—**Los Angeles.** Annual Automobile Show of the Los Angeles Motor Car Dealers Association.
10-13—**Chicago.** National Wheel and Rim Association, annual convention. Edgewater Beach Hotel.
11-14—**Detroit, Mich.** American Road Biulders Association, twenty-ninth convention and show.
14—**New York City.** Society of Automotive Engineers, annual dinner Pennsylvania Hotel.
16-18—**Detroit, Mich.** National Tire Dealers Association, annual meeting.
16-23—**Newark, N. J.** Newark Automobile Dealers' Association's annual show.
16-23—**Buffalo, N. Y.** Annual automobile show of Buffalo Automotive Trade Association, Inc., 174th Regiment Armory
17-23—**Cincinnati.** Automobile show of Cincinnati Automobile Dealers' Association
16-23—**Milwaukee.** Annual Automobile Show, Milwaukee Automotive Trades, Inc.
18-23—**Omaha, Neb.** Annual show, Omaha Auto Traders Association.
23-28—**Columbus, O.** Annual Automobile Show, Columbus Automobile Dealers Company, Auditorium.
22-30—**New York.** National Motor Boat Show, Grand Central Palace.
23-30—**Detroit, Mich.** Annual show, Convention Hall.
23-30—**Baltimore.** Annual Automobile Show.
23-30—**Minneapolis.** Annual Automobile Show of Minneapolis Automobile Trade Association.
23-30—**Pittsburgh.** Annual automobile show of Pittsburgh Automobile Dealers' Association, Motor Square Garden.
25-29—**Detroit, Mich.** Society of Automotive Engineers, annual meeting, Bok Cadillac Hotel.
30-Feb. 6—**Cleveland.** Annual Automobile Show of the Cleveland Automobile Manufacturers and Dealers Association, Public Auditorium.
30-Feb. 6—**Chicago, Ill.** National Automobile Chamber of Commerce. National Automobile Show
30-Feb. 6—**Chicago, Ill.** Automobile Salon Hotel Drake.

FEBRUARY

6-13—**St. Paul.** Annual Automobile Show St. Paul Automobile Dealers, Inc.
7-13—**St. Louis.** Annual Automobile Show, St. Louis Automobile Dealers Association. New Mart Building.
13-20—**Kansas City, Mo.** Annual Automobile Show, Kansas City Motor Car Dealers' Association. American Royal Building.
13-20—**Los Angeles, Cal.** Automobile Salon Hotel Biltmore.
17-21—**Peoria, Ill.** Automobile Show.
22-March 5—**San Francisco, Cal.** Automobile Salon, Palace Hotel.

Trade Association News

Vane Presents Dealers' View of Fleet Discounts

IN a current bulletin of the National Automobile Dealers' Association, C. A. Vane, the general manager, presents the dealer's point of view on the matter of fleet discount sales. Mr. Vane bases his remarks on a survey of fleet sales recently completed by Edward Payton, accounting supervisor of the association. The bulletin follows:

"What dealer body ever authorized its manufacturer to give a fleet discount? Here is a policy bearing heavily upon the seller, yet, so far as I know, no consultation was ever held between them looking to the safeguarding of the interests of the dealer. The policy suddenly appeared in the manufacturer's contract and dealers were instructed to begin giving away what in effect amounts in each fleet to 40 per cent. of their gross factory discount to those buyers designated by the manufacturers as fleet buyers.

"The only excuse I have ever heard for the fleet discount was that it was adopted by the Ford Motor Company originally and that other manufacturers had to adopt it in order to equalize Ford competition. This, however, is not defense. It is merely a confession.

"That the plea is specious is further shown by the fact that the most disastrous effects of the fleet discount are not in the lowest price field but in the higher. Having discovered that part of a dealer's discount could be given away under guise of meeting forced competition, the principle was extended to cover cars not in the 'enforced' competitive class at all. With what result?

"In the lower-priced field the amount given away in fleet discount equals one-half of the total net profit of the new and used car departments, and in the higher-priced field the amount given away in fleet discount reached nearly twice the total net loss of the new and used car departments.

"The truth of the matter is that the fleet discount is of benefit only to the car maker. It is a curse to the car dealer.

"In normal times the manufacturers make about ten times as much profit out of a car sale as a dealer. Yet the dealer is asked at all times to carry the cost of the fleet business. It would seem that, if fleet business is so attractive to factories, the logical way to handle it would be for the manufacturer to pay the cost of the fleet discount out of his margin of profit, not out of the dealers' operating discount.

"The situation could be reached very easily. The dealer could negotiate with the fleet buyer as he handles a single customer. Then, when the buyer springs the gentle surprise, at the end of the conversation, as he always does, after the dealer has gone overboard on the used car allowance, the dealer would hand him a blank application for fleet discount. The buyer would fill out his credentials and the dealer would send the application to the factory. If the purchaser was entitled to fleet discount, factory then would mail check to such applicant for the amount of rebate.

"In Mr. Payton's Table No. 2, a whole price class is shown as operating without any profit from new and used cars, and losing $23.37 per car in the operation. Yet these dealers, operating at such burden to themselves, are compelled, under a factory policy to which they have never acquiesced, to give away $35.86 on each new car sold, to pay the cost of the "fleet buyer" sales, on which their factories make the full producer profit.

"A substantial way of helping these dealers would be the immediate abolition of the fleet discount."

Philadelphia Club Lists Tax Increase Opposition

WITH political maneuvering in Harrisburg still keeping the outcome in doubt as to a 2-cent increase for two years in Pennsylvania's gasoline tax, organized motordom, represented by the A. A. A., Automobile Club of Philadelphia and the Pennsylvania Motor Federation, announce twelve reasons for opposing the increase. They are:

1. Because it is a violation of a pre-election promise to the people of Pennsylvania by the present administration.

2. In a period of depression taxes should be reduced, if anything, rather than increased.

3. Because a 5-cent gasoline tax is a tax of more than 45 per cent. on an 11-cent commodity.

4. That being surrounded by five states, all with a smaller tax, would very materially reduce our sales along the border lines.

5. That it would be a superinducement for increasing bootlegging of gasoline.

6. That it would break down the barriers of using moneys collected from motorists for other than road purposes.

7. That the method of distribution will be slow, cumbersome, expensive and ineffective.

8. That the tent camp for relief of unemployment during the rigor of winter months is not feasible, and that road construction is not practical in winter.

9. That all municipalities and communities have already, or are at present making provisions for a welfare program, and collecting ample moneys to take care of the unemployed in their own sections. Unemployment relief, except in remote instances, is purely a community obligation.

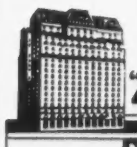
10. That this increased tax would materially interfere with the recovery of the automobile industry and its allied lines of business.

11. That it is diametrically in opposition to the Hoover plan of relief.

12. That the increased gasoline tax paid by trucks and other commercial cars would be paid by the consumer in increased rates, and, as the gasoline tax is mostly paid by poor people and people of moderate means, people to whom the automobile has become a necessity in trade and daily labor, the people of small or moderate means would be called on to bear too great a tax burden.

TALKS ON SALESMANSHIP

Jersey City, N. J., Dec. 3.—Frank J. Hoonan, sales manager of the Franklin Motor Car Company of this city, spoke on "The Importance of Salesmanship" before the evening session of the Lincoln High School.



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DOUBLE $5

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Hotel PARAMOUNT
46th STREET WEST OF BROADWAY, NEW YORK
CHARLES L. ORNSTEIN, MANAGER

THREE-FIFTHS of the new car sales in New York City this year—and 79% of the New York City increase—came from the middle-income districts, where incomes average $2,000 to $4,000

• But most of your 1931 New York newspaper advertising did not reach the sections which produced most sales—unless your advertising was in The News!

• THE NEWS, New York's Picture Newspaper

Kohl Building, San Francisco + Tribune Tower, Chicago + 220 EAST 42nd STREET, NEW YORK CITY

WISCONSIN AXLES are built just the way you would like to build axles for your own use.

WISCONSIN AXLE CO.
Oshkosh Wisconsin

TIRE PRICE CUT MAY LEAD TO PROBE BY U. S.

(Continued from Page 1)

they contend constitutes restraint of trade.

The price reductions, amounting to from 5 to 19 per cent. on passenger car and truck tires, as well as inner tubes, was denounced yesterday by one manufacturer as "extremely unfortunate," and an action that will "entail a continuance of human suffering, reduce the number of workers, shorten hours and lead to salary and wage cuts."

Others who lowered their price schedules denounced the action, but said that they were forced to follow suit.

Mail order houses have taken no action on their tire lines, but the company which supplies the Standard Oil Company of New Jersey with tires for sale at its gasoline service stations, the Atlas Supply Company, as well as other distributers, yesterday lowered its prices 10 to 15 per cent. in line with the reductions made by other manufacturers.

"The effect of the cuts upon tire manufacturers is certain to be disturbing," it was declared yesterday by President W. O. Rutherford of the Pennslyvania Rubber Company. "Constructive selling and manufacturing measures in progress must be delayed, while individual companies recoganize and adjust themselves to the new and lower price levels.

"Tire merchants who have been suffering for the past several years due to insufficient income will be shocked to learn of this price decline, as their present small margin of profit will be reduced, thereby jeopardizing their very existence.

"Once again industries depending upon the rubber manufacturer for their existence, such as tire cotton fabric and rubber growing, will be called upon to revise their prices downward. How it can be done is difficult to see. At present they are in extreme distress. Prevailing tire prices are estimated to be 75 per cent. below pre-war cost levels."

Reductions effected in tire lists this week apply to the dealer trade, which provides tire manufacturers with their primary market, as distinguished from the new car tires, known as original equipment.

New Commercial Car Registrations, First Ten Months, '31, by Makes, Months

Months	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	International	La France Republic	Mack	Pierce-Arrow	Reo	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	Months
January	223	153	7566	167	1178	111	11308	444	1324	21	225		273	62	84	273	38	222	98	21	623	24414	January
February	177	108	7457	135	1129	100	10868	385	1368	33	185		261	47	85	268	23	204	140	21	481	23475	February
March	121	150	9396	144	1359	123	14728	454	1880	36	287		308	57	119	361	37	207	226	20	596	30609	March
April	155	215	11194	236	1574	150	17752	590	2295	52	344		354	104	166	381	22	228	300	24	715	36851	April
May	154	188	9925	260	1491	166	15671	540	2382	39	346		306	101	175	426	16	253	386	19	645	33489	May
June	179	144	8969	239	1284	144	12447	510	2076	45	293		467	59	132	289	17	267	324	10	595	28490	June
July	134	143	9538	304	1249	150	12924	725	2279	58	288	11	648	71	129	301	9	231	333	12	548	30085	July
August	112	186	8951	264	986	125	11573	733	1825	25	287	8	609	58	117	248	9	207	260	8	441	27032	August
September	130	110	8814	229	923	101	10838	642	1866	37	174	12	622	68	109	292	4	236	261	6	493	25967	September
October	157	148	8704	233	988	116	9594	768	1691	39	226	11	578	44	121	308	4	214	227	6	518	24695	October
Totals	1542	1545	90514	2211	12161	1286	127703	5791	18986	385	2655	42	4426	671	1237	3147	179	2269	2555	147	5655	285107	Totals

Essex, FWD, Fargo, Paige, Relay and Rugby are now included in the Miscellaneous Column.

Final Revision, Complete New Commercial Car Registration Statistics, Oct., '31

Returns for today: Alabama, Colorado, Kansas, Kentucky, Maine, Mississippi, New York, Tennessee, Texas and Wyoming

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies. Some of this data has been published previously, but it is given here complete for the convenience of our subscribers.
In this table, 48 states and the District of Columbia. Comparative figures for October, 1930, will be found on Page 7 Commercial Car Registrations do not include buses.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	International	La France Republic	Mack	Pierce-Arrow	Reo	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Alabama			152		14	4	108	13	41	1	2		6			6		7	4			358	Alabama
Arizona			26		1		43	2	1							3			1			77	Arizona
Arkansas			123		9		108	2	35		3											280	Ark.
California	7		397	4	79	3	744	57	46	2	11		44	12	1	17		11	7		68	1510	Calif.
Colorado		1	114		9		143	7	29		3		2			4		5	3		20	340	Colorado
Connecticut	4	1	180	1	33	11	202	16	31	5	7	2	27		4	4		6	4		11	549	Conn.
Delaware	1		24				26	2	4		1		1		1						1	61	Del.
Florida		1	218		7	1	221		12		2		7					1				470	Florida
Georgia	1	4	147		4		142	3	7	1	2		2			2	1	2				318	Georgia
Idaho			19		9		42	1	11				1			3		3	2		1	92	Idaho
Illinois	1		382	36	28	4	324	24	70		2		14	6		13		1	9		12	926	Illinois
Indiana		3	211	1	13	1	205	17	55				14		1	7			10		12	550	Indiana
Iowa			211	4	14		157	9	34		1		17			12			9	1	2	471	Iowa
Kansas		2	147	7	16	1	133	10	28	1	5		3			3		4	2		8	370	Kansas
Kentucky		5	140	6	15	4	112	9	41				12		2	7					3	356	Kentucky
Louisiana			154	2	12		156	4	40							1		3	2			374	La.
Maine		2	91	1	18		116	4	18				7	1		13		1	2			274	Maine
Maryland	8	7	133	5	17	1	123	13	28		28		14			3		15	5	1	3	404	Md.
Mass'setts	23	8	275	4	51	5	465	99	45	4	10		38	3	2	16		14	3		9	1074	Mass.
Michigan	2		218	3	22	4	329	29	29	3	1	2	18			6			6		12	684	Michigan
Minnesota			190	9	13	4	192	10	49		2		18	2	2	16		6	15		3	531	Minn.
Miss.			92		4	1	55	2	15				2						1			172	Miss.
Missouri	1	3	297	6	27	5	235	16	49	1	3		9		1	8	1	7	6		21	696	Missouri
Montana			40		5	1	89	4	35		1		2			1			2		2	182	Montana
Nebraska			99		14	1	121	9	39		1		4			4		1	2		1	296	Nebraska
Nevada			16		2		15		1				2									36	Nevada
New Hamp.	1	1	54	2	1		70	1	6	1	4		1			1			2		2	147	N. Hamp.
New Jersey	4	7	309	6	44	6	366	31	59		12		33	1	8	9		9	2		23	929	N. Jersey
N. Mexico			41	3	2		37	1	14				1									99	N. Mexico
New York	52	73	809	66	148	16	1137	115	181	6	72	3	91	7	58	32		63	29	1	68	3027	New York
Nor. Carolina	2		235	12	21		287	8	26	2	1		5			1		4	4		84	692	Nor. Car.
North Dakota			18		4		19		23				1			2			4		1	72	Nor. Dak.
Ohio	2	5	367	11	37	7	488	72	90	4	3	1	32		6	24		10	20	1	40	1220	Ohio
Oklahoma		3	161		16		108	13	17				6			1		1	2		3	331	Okla.
Oregon			45		7	4	84	8	9	1		1	2	1				4	2		1	169	Oregon
Pennsylvania	34	16	603	17	141	10	750	62	150	6	34		75	8	33	19		9	27	1	47	2042	Penna.
Rhode Island	5		33		4	3	90	17	5				5		1	2		1			2	168	Rh. Island
So. Carolina			99		6	3	79	3	4		9		4			1					14	222	S. Car.
So. Dakota			27	1	3		24		5				2			2			2			66	S. Dak.
Tennessee			170	1	14	8	127	12	31				3			2		5	6		1	380	Tennessee
Texas			812	6	32	3	565	10	166		2	1	12			23	1	5	4		8	1650	Texas
Utah			45		2		46		10				5			4			1			113	Utah
Vermont			35		6		36	2	10							1			3		1	94	Vermont
Virginia	5	3	252	3	13	1	186	14	13		1		11			4		8	2	1	1	518	Va.
Washington	2		78	3	7		74	9	13		2		2			9	1	1	2		11	214	Wash.ton
W. Virginia		1	128		19		115	8	21				8			5		1	8		7	321	West Va.
Wisconsin			191	7	17	3	172	14	30	1		1	13	3	1	10		1	11		5	480	Wis.
Wyoming			22		2		38		4				1			5		1				73	Wyoming
Dist. of Col.	2	2	74	6	6	1	90	6	11		1		1			2		4	1		10	217	D. of Col.
Totals	157	148	8704	233	988	116	9594	768	1691	39	226	11	578	44	121	308	4	214	227	6	518	24695	Totals

HAYES CUSTOM BODY EXHIBIT AT N. Y. SALON

New York, Dec. 3.—A striking Hayes custom body, a five-passenger two-door sedan, mounted on a Marman 16 chassis, is among the models exhibited at the New York Salon.

The presentation by Hayes marks the first advent into custom body manufacture for a number of years. The model was designed by M. Comte Alexis de Sakhnoffsky, who has gained an international reputation in the past three years.

The motif for this Hayes body was a Grand Prix custom body designed by Count Sakhnoffsky which won the Grand Prix in Monte Carlo in 1929. The body is streamlined. It has motor streamline louvers and a very long hood. The ensemble is a mixture of curves and straight lines. The belt line, fenders and sills are sweeping lines, while sections of the window openings and reveals are square.

Among the interior features are front seats for two with arm rests for both front seat passengers. The arm rest for the one passenger is adjustable. The body is so wide that with two passengers sitting in a comfortable position in front, enough space remains between the front seat edge and the center post to permit easy entrance and exit to and from the rear seat.

A novel treatment has been given to the roof. It has a recessed section which allows extra headroom for passengers. Mahogany finished molding accentuates the beauty of the lines in the top.

Upholstery is of a special developed cloth, which has a doeskin finish. Horizontal pipes constitute the trim motifs. Inside the car there are rounded mahogany mouldings. The outside door handles are streamline in design in keeping with the body design and there are special scopps on top of the cowl which carry away hot air.

Among the special features is an ash tray for the convenience of the front seat passenger, which is created by a combination of the straight instrument board and the V-type windshield. This ash tray is specially designed for pipe smokers.

WILL ADD 15 BUSES

Barrington, N. J., Dec 3 Barrington borough council has granted permission to the Zimmerman Bus Line to add fifteen buses in intrastate service between Barrington and Philadelphia, enabling the company to open the doors of its buses in the borough after authorization by the Public Utility Commission.

HARDIE JOINS EUROPEAN STAFF OF STUDEBAKER

South Bend, Ind., Dec. 3.—E. E. Hardie has joined the European staff of the Studebaker Pierce-Arrow Export Corporation as district manager for central Europe, according to R. A. Hutchinson, regional director of European territories Mr. Hardie will represent the company in Albania, Austria, Bulgaria, Czecho-Slovakia, Greece, Hungary, Jugo-Slavia and Rumania.

SUPREME COURT UPHOLDS VIRGINIA SALES TAX

Richmond, Va., Dec. 3 (UTPS).—The Supreme Court has upheld another chain store tax in deciding that the Virginia license tax on distributing warehouses operated by the chains was valid.

IN LARGER QUARTERS

Springfield, Mass., Dec. 3.—The Chandler Motor Sales has moved to larger quarters at 751-755 Main St.

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BROCKWAY-INDIANA TRUCKS

have been Proved by Performance ever since 1909.

A complete line of trucks from 1 to 10 tons capacity in cargo, dump and tractor chassis to handle every hauling requirement.

Whether you are interested in buying or selling motor trucks, get full particulars by calling at our nearest factory branch or write

BROCKWAY MOTOR TRUCK CORP.
General Offices
Cortland . . . . . New York

New Commercial Car Registrations, First 10 Months, 1930, by Makes, Months

Months	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	International	La France Republic	Mack	Pierce-Arrow	Reo	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	Months
January	157	248	8751	251	1606	169	13220	727	1836	28	344	*	698	145	95	100	241	411	130	62	1012	30231	January
February	135	235	10327	207	1267	162	14198	535	1927	31	298	*	565	74	155	86	220	318	160	44	902	31846	February
March	195	384	13011	264	1595	228	19546	936	2364	43	452	*	682	106	265	99	223	408	246	88	1053	42188	March
April	216	492	14054	300	1682	252	21733	1242	2739	67	566	*	903	147	314	95	198	480	298	67	1152	46997	April
May	212	542	12790	373	1504	213	19743	1191	2531	49	717	*	738	147	306	112	168	452	216	71	1130	43204	May
June	182	479	9762	261	1112	158	15661	889	1915	53	446	*	582	109	207	101	105	412	200	47	834	33515	June
July	194	386	10949	337	1078	208	19832	881	2471	48	577	2	584	100	266	88	114	459	215	80	1008	39877	July
August	171	251	9548	276	705	142	17078	604	2217	45	405	3	436	102	184	83	84	398	170	41	866	33809	August
September	170	191	9714	217	1014	155	17524	593	1827	58	360	2	402	92	172	100	83	317	138	28	745	33902	Sept.
October	186	264	8477	144	1738	174	18151	676	1797	58	391	2	355	91	177	195	99	321	120	33	775	34224	October
Totals	1818	3472	107383	2630	13301	1861	176685	8274	21624	480	4556	9	5945	1113	2141	1059	1535	3976	1893	561	9477	369793	Totals

Essex, FWD, Fargo, Paige, Relay and Rugby are now included in the Miscellaneous Column. *Included in the Miscellaneous Column.

Complete New Commercial Car Registration Statistics, October, 1930

This table is repeated for comparative purposes only. Figures for October, 1931, will be found on Page 6.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	International	La France-Republic	Mack	Pierce-Arrow	Reo	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Alabama, '30		3	239		27	9	323	26	39	1	8		6		1	2	6	18	2			710	Ala., 1930
Arizona, 1930			27		2		88	2	8						1	3		2			1	134	Ariz. '30
Arkansas, '30			106		13	1	145	4	22				1					1	4		2	299	Ark., '30
California, '30	6	13	579	5	130	6	1518	54	51	3	13		44	37	4	17	5	27	4	1	113	2630	Cal., 1930
Colorado, '30			366		22		440	18	35		1		4			8		3	10		7	914	Col., 1930
Conn., 1930	4	12	108	2	45	5	256	22	23	2	25		9	3	8	4	1	9			5	543	Ct., 1930
Delaware, '30	1		14		2		52	4	2									1			2	78	Del., 1930
Florida, 1930		7	145		12	5	503	4	19		5		2					5	1			708	Fla., '30
Georgia, 1930		1	104		8		262	4	17	1	2		2					6	3		1	411	Ga., 1930
Idaho, 1930	3		72		4		168	2	8		1		4			2					1	265	Idaho, '30
Illinois, 1930	4	2	407	18	94	3	669	15	93	1	16		10	2	2		4	5	4	1	86	1436	Ill., 1930
Indiana, 1930		4	145		28	2	317	14	18				4		8	16	2		1		2	561	Ind., '30
Iowa, 1930			214	3	24	3	293	12	87	1	10		7			7	1		6		20	688	Iowa, '30
Kansas, 1930		2	202	1	32		240	3	43	2	1		8			4	1	1	3	1	4	548	Kan., '30
Ky., 1930		2	92	4	31		210	12	33		2		7				1	1	1		6	402	Ky., 1930
Louisiana, '30			148		8	1	231	2	29				1			1		3	1			425	La., 1930
Maine, 1930			67	1	25		152	2	14		1		7			9	1		1	1		281	Maine, '30
Maryland, '30	3	8	103	7	26	6	231	6	19	3	9		1	1	2	4	3	10	1	1	13	457	Md., 1930
Mass., 1930	26	9	161	2	83	11	693	45	55	1	19		20	6	7	8		14	2		7	1169	Mass., '30
Mich., 1930	1	4	187		41	11	780	17	28	8	1		11			9	2	4	1		17	1122	Mich, '30
Minnesota, '30		1	267	11	43	6	492	9	95		8		14			5	4	13	3	2	13	986	Minn., '30
Miss., 1930			124		3	1	146		7		1					1					3	286	Miss., 1930
Missouri, '30		4	244	3	45	4	421	11	44		6		5			3	3	6	4		19	822	Mo., 1930
Montana, '30			52		5		99	3	39	1			2			1			1	1	4	208	Mont., '30
Nebraska, '30			169	2	32		346	5	50		2		3			3	2	1	8		9	632	Neb., '30
Nevada, 1930			17		8		37	3													4	69	Nev., 1930
N. H., 1930			37	1	9		119	3	6		3		6		4	1					4	193	N. H., '30
N. J., 1930	13	8	214	10	85	10	672	30	63	4	23		20	6	8	4	3	22			38	1233	N. J., 1930
N. M., 1930			86	2	1		116		11				3						1	1		221	N. M., '30
New York, '30	63	117	660	42	231	31	2004	111	173	8	119	1	48	19	95	28	26	55	10	10	120	3971	N. Y., '30
Nor. Car., '30			222		24		422	9	20				3			1		6	4		4	715	N. C., '30
N. Dak., 1930			38		5		67	1	45				1			1		1	2		4	165	N. D., '30
Ohio, 1930	7	6	324	3	75	11	832	30	80	3	16		9	1	8	17	16	17	7	11	23	1496	Ohio, 1930
Okla., 1930		3	198		37	2	291	15	61		1	1	4			2		6	2		12	635	Okla., '30
Oregon, 1930			91		11	2	193	5	11	4	2		4					5	3		30	361	Ore., '31
Penna., 1930	41	37	462	9	219	19	1311	47	130	9	57		28	13	26	12	7	47	12	2	96	2584	Pa., 1930
Rhode Isl., '30	3	1	32		14	2	108	6	5		7		4	2		1	1	3	3		3	195	R. I., '30
So. Car., 1930			92		7	2	215	6	6		8					3		1			5	345	S. C., '30
So. Dak., '30			55	2	7		87	3	39				2			2	1		1			199	S. D., '30
Tenn., 1930		4	198		22	10	259	17	30	2	4		6			4	1	1	1		7	566	Tenn., '30
Texas, 1930	2	4	593	3	45	7	774	23	96		5		11			3	1	5	3	1	16	1592	Texas, '30
Utah, 1930			41		5		110	5	3		1		3								4	172	Utah, '30
Vermont, '30		1	23		8		58	1	11				7		1							110	Vt., 1930
Virginia, '30	4	7	207		24	2	316	15	31	3	9		4			1	2	3	3		34	665	Va., 1930
Wash., 1930			105		35	1	276	8	14		1		6	1		4		12	1		16	480	Wash., '30
West Va., '30		4	106	1	32	1	166	13	19	1			7		1	1	1	1	1		7	362	W. V., '30
Wis., 1930			270	8	41		401	23	49		2		5		1	3	4	3	5		10	825	Wis., '30
Wy., 1930			34	1	6		74	2	13				1								1	132	Wy., 1930
D. of C., '30	5		30	3	2		168	4	3		2		1					3			2	223	D. C. '30
Totals	186	264	8477	144	1738	174	18151	676	1797	58	391	2	355	91	177	195	99	321	120	33	775	34224	Totals

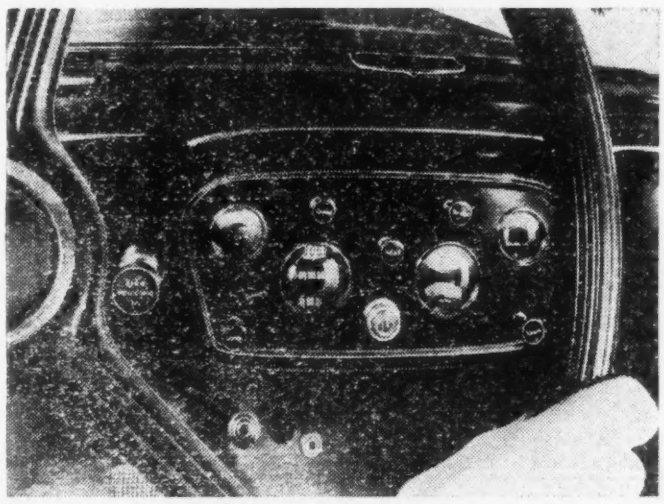
New 1932 Chevrolet Closed Bodies Are Streamlined

(Continued from Page 2)

the hood catches. The front seats on all closed models are adjusted by lifting a lever on the left-hand side of the seat. A new cowl ventilator is within easy reach of the driver's hand. Wheelbase of this new Chevrolet is 109 inches.

The improvements in the power, smoothness and quietness of the engine were obtained by further development of the previous design

Retaining the same bore and stroke, the engine develops greater horsepower throughout the entire speed range, reaching its peak of 60 horsepower at 3,000 revolutions per minute; at 1,000 revolutions per minute it develops 24.5 horsepower, and at 2,000 revolutions per minute 49 horsepower. The torque is also increased. The maximum torque of 130 foot pounds is maintained from 800 to 2,000 revolutions per minute. The minimum torque is over 100 foot pounds.



NEW INSTRUMENT PANEL of 1932 Chevrolet Six, with ash receptacle on top rail

By the addition of ribs and by the increase of metal thickness at strategic points of maximum stress the cylinder and crankcase casting is strengthened and stiffened. The rigidity of the entire cylinder and case is increased to better withstand both torsional and transverse loading.

Crankshaft main bearings are improved by the adoption of thinner walls. While the outside diameter of the bearing shells remains unchanged, the reduction in wall thickness permits an increase in the diameter of the crankshaft journals.

The outstanding feature, which makes thin wall bearings so desirable, is their ability to follow the contour of the crankcase bore, due to their greater flexibility. This flexibility permits more intimate contact between the bore and the bearing back. Another advantage of the thin wall bearings is the fact that the bond of the bearing lining to the shell is at the neutral axis of the whole bearing wall. The center bearing is not increased in length, but, due to the reduced thickness of the flanges, it is better supported by the crankcase and bearing cap.

To insure longer bearing life, with smoother and more quiet engine operation, the crankshaft has been fitted with counterweights and by an increase in the diameter of the main bearing journals. The counterweights are forged integrally as an extension of the cheeks at each side of the center bearing, and just back of the front bearing and just ahead of the rear bearing. The finished weight of the crankshaft is increased to 53 pounds. Due to the increased mass of the flyweight, the harmonic balancer has added ability in dampening out vibrations at critical speeds.

The oiling system in the 1932 engine is completely redesigned to provide pressure lubrication to the crankshaft main bearings, the camshaft bearings, and the valve stems.

The same sliding-vane type oil pump is used, but it has been increased in depth to deliver larger loume of oil at higher pressure. The oil distributor on the left side of the engine is provided with a spring-loaded regulator valve as heretofore. A connection on the high-pressure side of this valve leads to the oil pressure gauge on the instrument panel.

From the low-pressure side of the valve, connections lead to the valve rocker shafts and to the connecting rod dipper troughs. The center main bearing and the center cam shaft bearings are lubricated directly from the common bearing lubrication point. Distributing pipes, which extend the full length of the crank case from this point, deliver oil to the front and rear main and cam shaft bearings.

Provision is made to feed just sufficient oil, through a metering groove in the rocker arm bushing, to lubricate valve stems and the upper end of the push rod. The rocker arms are redesigned to accomplish this without resorting to wicks. Splash lubrication is supplied for the connecting rod bearings, piston pins and cylinder walls.

The intake valve timing is advanced eight degrees. While the duration of the opening remains unchanged, the earlier opening permits better filling of the cylinders. The cam lift of .212 inch is retained, but due to the increased rocker arm ratio, the valve lift is increased from .277 to .309 inch. These increased opening areas insure more effective intake and exhaust o fthe gases. The compression ratio is increased to 5.2 to 1.

The new down draft intake system is another important factor in the performance of the 1932 engine. Gas accumulation in the manifold is reduced by the introduction of an insert in the manifold riser which, separating the wet mixture from the manifold walls, forces the wet ends into the air stream.

A split choke, which predetermines the amount of choking for ordinary conditions, and yet permits full choke when necessary, is used to prevent overchoking.

A heat control valve is provided in the exhaust manifold. This valve is operated by a control button on the instrument panel. The riser between the intake manifold and the carburetor serves to insulate the carburetor from the heat of the exhaust manifold.

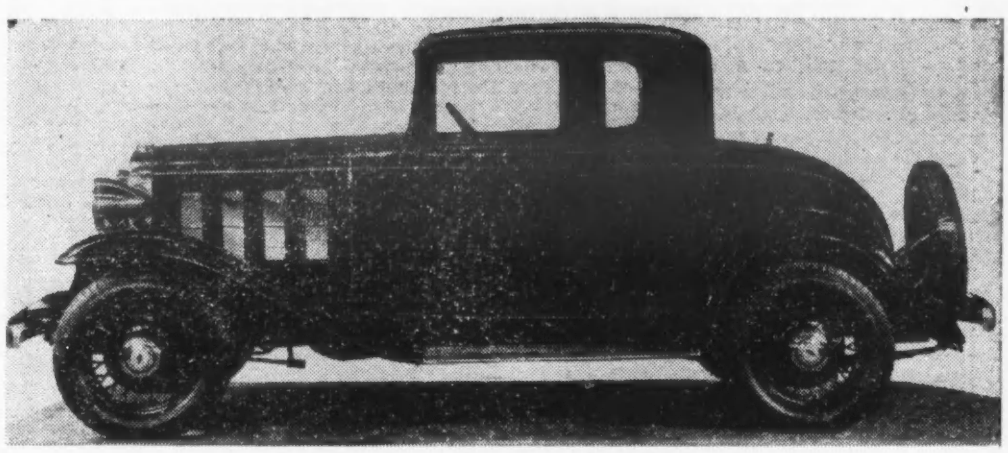
Addition of an air dome to the fuel pump is another feature of the new Chevrolet engine. This simple device, which is nothing more than an air chamber, is located at the extreme top of the fuel pump. It is designed to act as an air cushion, preventing the unequal pulsations of the fuel pump from affecting engine operation.

An air intake silencer and cleaner is another of many improvements evident on the 1932 engine.

A four-bladed fan gives an ample supply of air through the radiator to the motor.

A further refinement to insure adequate cooling is the improvement in the distribution of water around the exhaust ports. The water capacity at all strategic points has been increased.

Rubber engine mountings that are semi-resilient noise and shock insulators are fitted. At the points of suspension the rubber is securely restrained from excessive movement by stamped retainers, which also protect the rubber from oil and and water.



NEW 1932 Chevrolet Sport Coupe

In the new clutch, three pressure levers are used instead of four. The three levers are sturdier, and exert a uniform pressure on the friction disk. Two torsion springs are provided at each pressure lever to maintain constant contact and to eliminate the possibility of rattles.

The throw-out plate is mounted on the pressure levers, forming a universal joint and assuring alignment of the bearing and levers. The reduced friction results in lower pedal pressure.

With this self-aligning arrangement the load of clutch disengagement is applied uniformly and all tendency toward localization is eliminated.

The clutch fork is mounted on a spherical swivel, which is retained in the fork by means of a spherical stamping and a snap ring. This spherical mounting, combined with the three-finger feature, is designed to insure perfect alignment of the release bearing, which is mounted at the inner end of the fork on a pair of trunnions.

This release bearing, made of a carbon-graphite composition, is contained in a collar, which is shrunk around the bearing. The collar is heated to a temperature considerably above that of the bearing and expands sufficiently to permit entry of the bearing. As the collar cools it shrinks, to clamp the bearing tightly and permanently, forming an oil-tight joint.

The face of the release bearing is grooved to allow for the seepage of lubricant and to provide for the clearing off of small particles of carbon which may wear off the bearing surface.

The collar has an annular cavity which forms a reservoir for the lubricant. The lubricant seeps slowly through minute pores in the carbon-graphite bearing onto the contact surface, preventing squeaks and reducing wear. An oil cup is provided for the replenishment of the lubricant, which is necessary only occasionally during the life of the car. This lubrication is easily accomplished through the inspection hole in the clutch housing.

Nine springs are employed to engage the clutch, instead of eight, the number used on previous models. These nine springs are spaced in three groups of three between the levers. They distribute the engagement pressure more uniformly and make the engagement smoother.

The clutch disk is cushion-mounted at the hub. Eight springs form the only means of contact between the hub and the disk carrying the friction facings. By this means the torque impulses of the engine are cushioned, and even their slight effect is smoothed out before it can be transmitted from the friction surfaces to the splined shaft.

The Chevrolet syncro-mesh transmission closely resembles those of other General Motors units.

Selective "free-wheeling" in the 1932 Chevrolet is made possible with an over-running clutch, which is manufactured entirely in Chevrolet plants and assembled as an integral part of the syncro-mesh transmission. It is mounted at the rear of the transmission and provides selective "free-wheeling" in all forward speeds.

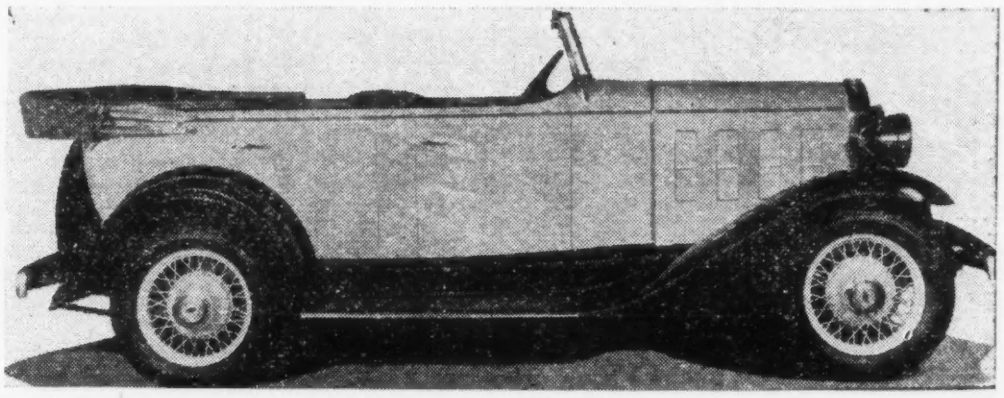
The over-running clutch, as designed and built by Chevrolet, consists of three major operating parts. The front driving member is securely splined to the transmission main shaft, and the rear driven member is securely splined to the front yoke of the universal joint, through which it is connected to the propeller shaft.

A multi-coiled, rectangular sectioned driving spring is attached to the rear driven member by an integral prong at its end. Its outside diameter is ground and is confined within ground cups in both the driving and driven members, with a very slight clearance, permitting free and independent rotation of either member. A Hyatt solid roller bearing maintains accurate aligment of the driving and driven members.

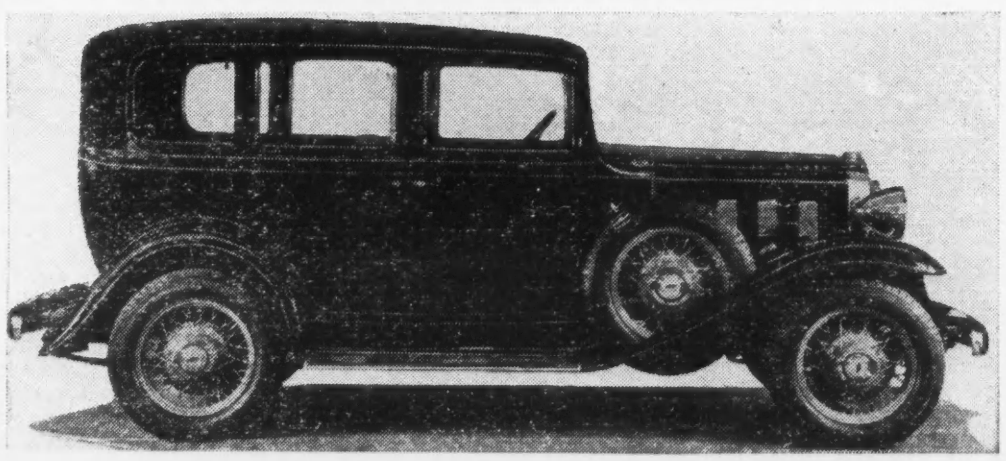
As the power is applied, the spring expands tightly into the cups of both members, locking the two together with a force equal to the power transmitted. When the driving force is removed, by removing the foot from the accelerator, the driving spring contracts and the rear member is free to rotate with the propeller shaft and rear wheels.

A clutch sleeve is splined to the outside of the front driving member. This sleeve may be moved toward the rear to engage splines on the outside of the rear driven member by means of a push and pull control on the instrument panel. When the control button is pulled out, the clutch sleeve engages the splines on both the driving and driven members, locking them together and making the driving spring inoperative. The transmission main shaft and the propeller shaft are then

(Continued on Page 10)



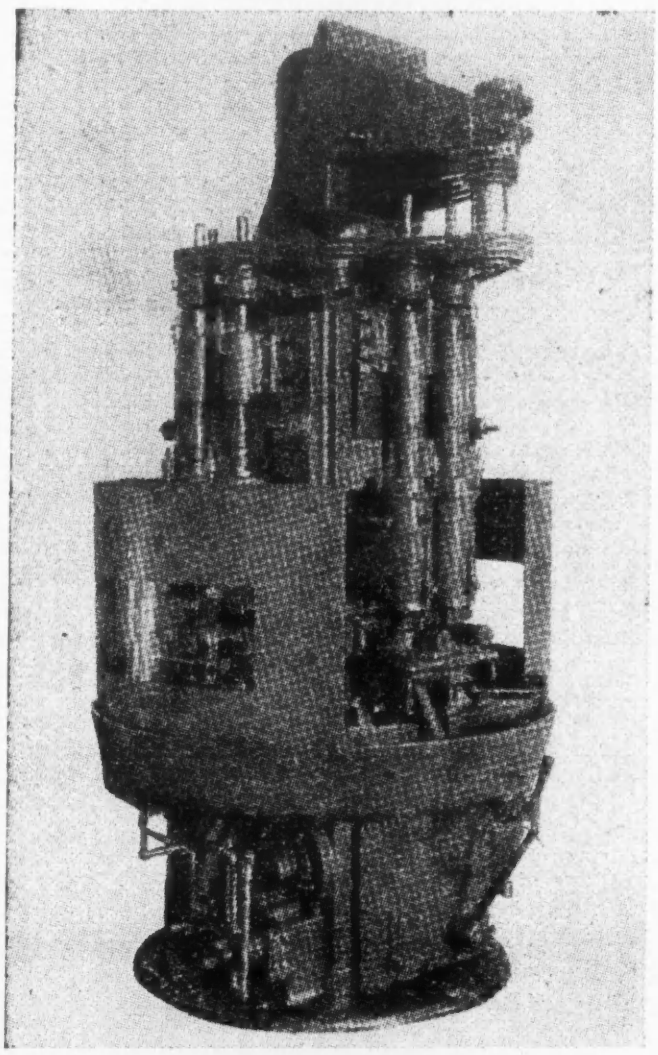
NEW 1932 Chevrolet Phaeton



NEW 1932 Chevrolet Special Sedan

Production--Engineering--Factory

New Coulter Diamond Tool Boring Machine Announced



THE Automatic Machine Company of Bridgeport, Conn., is just announcing a Coulter diamond tool boring machine of the vertical, four-station, revolving turret type. This machine is designed for quantity production of bearing holes, in connecting rods, pistons, bushings, valves, etc. The boring machine is a motor-driven unit and self contained. The manufacturers emphasize the fact that action is automatic, the operator loading and unloading the fixtures as they come to the idle position at the front of the machine.

Power is taken from the motor shaft by means of a V-belt sheave to a jack shaft at the front of the machine. From the jack shaft the power is passed on to boring spindle sheavers, except to those at the loading position, by means of V belts. As the turret turns the boring spindle sheaves leaving the finished position move out of contact with the V belts the spindles stopping before reaching the unloading position. The spindles, after leaving the loading position, start to revolve before reaching the first boring position, because their sheaves contact the V belts in advance. Thus the boring spindles revolve from the time they leave the loading station until the boring operation is done and the unloading position is reached.

The jack shaft is eccentrically mounted to take up the slack of the V belts. The main motor V belts are tensioned by an adjustable idler. Spindles are splined to allow a rise and fall of the spindle heads as controlled by the feed cam. Feed is by gravity.

Coulter fine adjustment micrometer spindles are furnished on this machine and spindles of the usual bearing type may be had as desired.

Power for driving the turret and other parts is transmitted through a flexible coupling and main vertical drive shaft to the worm at the bottom. The worm and gear unit drives a cross shaft on which is mounted the operating clutch. The clutch shaft drives through change gears back to another worm, which in turn drives the worm gear attached to the hollow shaft actuating the turret, which revolves at the rate of 2½ revolutions per minute.

Power is taken off the clutch shaft to drive the lubricant pump and the coolant pump. This latter has a capacity of 16½ gallons per minute.

The movable centers are independent of each other, and at the rear of the fixture is a bar that lifts the bell cranks and opens the centers when a shoe makes contact with a segment cam placed on the inner chip trough. This cam is located at the unloading position. Swinging chip guards are placed above the centers to catch babbitt and bronze chips and keep them from falling into the section below. The chip guards are actuated by a segment cam in the inner chip trough.

The spindles are adjustable laterally by means of T slots, which permit of varying the center distances. Boring bar lubrication is separate from the machine lubrication, being effected by sight feed oilers. Spindle speed is 4,300 r. p. m., the motor is a 15-20 horse-power unit. The floor space required is fifty-seven square inches. The height of the machine is 9 feet 10 inches. The turret speed is 2½ r. p. m. The weight of the machine is 12,000 pounds and the production ten rods per minute.

THE HAM TREE BLOOMS AT PREST-O-LITE PLANT

One of the most original Christmas festivals held by any organization in the automotive industry is the annual "Ham Tree" party given by the employees and families of employees of Prest-O-Lite Storage Battery Corporation at Indianapolis. The feature of the occasion is the distribution of a ham in an attractive Christmas box to each Prest-O-Lite employee. This distribution takes place out of doors beside a giant Christmas tree, presided over by Santa Claus himself.

This year's Prest-O-Lite Christmas party will be held on Saturday morning, December 19.

OUTPUT OF STEEL PLANTS GAINS IN YOUNGSTOWN, O.

Youngstown, O., Dec. 3.—Steel sheet and strip production in Youngstown district plants for fabricating such products was considerably higher at mid-week than when the week opened. Several sheet plants resumed operations December 1. Among these were the Republic Steel Corporation sheet plant at Niles, O., and the Youngstown Sheet and Tube Company plant for making sheets, at Campbell, O.

Valley trade authorities report that the Mahoning Valley Steel Company will resume production at its idle Niles sheet plant by December 7.

Eight of fifteen sheet mills are rolling for Youngstown Sheet and Tube at Campbell, while eight are active for Republic at Niles, O. A tentative schedule will replace six of eight Mahoning Valley Steel Company units on the active list shortly.

Large tonnages expected to be placed in the Mahoning Valley by Ford, Chevrolet and other leading automobile manufacturers have not yet appeared in sufficient volume to cause a sharp upturn in operations of sheet, strip and bar mills, although schedules of such mills were higher at midweek.

Sheet mills in the district are less than 30 per cent. active.

AURORA EQUIPMENT EXHIBIT FEATURES STORE, SHOP FIXTURES

The Atlantic City exhibit of Aurora Equipment Company, manufacturer of automobile store fixtures, emphasizes display of the merchandise, combined with convenience in serving the waiting customers.

End display units are shown in white lacquer, and many other special display units for ignition parts, brake lining, fly wheel ring gears, cylinder-head gaskets, radiator hose and all other parts sold by well-stocked parts jobbers.

There will also be storage units for parts for Ford and Chevrolet now so generally carried by the trade.

New lighting fixtures have been designed to thoroughly light the shelves and show merchandise at its best.

Many jobbers are now using sales tables. Equipto has a new table with glass rub rail. This is something new.

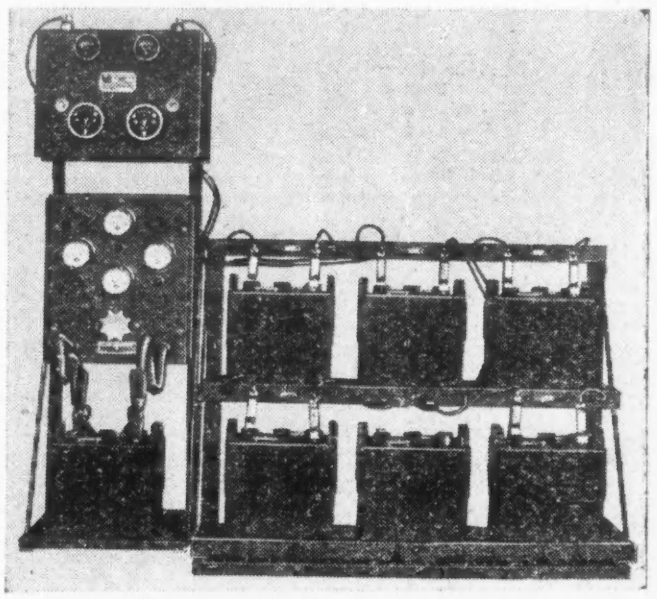
AC CARBON ELIMINATOR DESIGNED TO REMOVE GUM FROM FUEL

The AC Spark Plug Company is introducing a device designed to remove gummy material from gasoline and thus eliminate carbon troubles from the engine. This device takes the form of an injector containing a chemical fluid, which dissolves the gummy substance before the fuel enters the combustion chambers. The injector attaches to the engine side of the dash, with foot control button extending through the dash. Tubing from the injector runs to the intake manifold, where the fluid is drawn into the cylinders, and onto the valve stems. The fluid is sold in cartridges for use with the injector. A can of the fluid is supposed to contain enough fluid for complete carbon removal if used each 1,000 miles.

DIRKSEN GOING ABROAD FOR STUDEBAKER EXPORT

South Bend, Ind., Dec. 3.—Eugene Dirksen recently joined the European organization of the Studebaker Pierce-Arrow Export Corporation as district manager in Belgium, Luxembourg and Switzerland. As a member of the European staff, his activities will be under the supervision of R. A. Hutchinson, regional director, in charge of Studebaker and Pierce-Arrow business in all European territories.

Allen Electric Offers New Battery Shop Equipment



THE Allen Electric and Equipment Company, Kalamazoo, Mich., will have some brand new items on view at its booth in the Auditorium at Atlantic City for the M. E. A.-N. S. P. A. show next week.

One of these new items will be the E-46 battery shop, which comprises battery station for six batteries, a built-in E-50 portostat battery merchandiser, a shell for charger, drop pan, etc. When furnished with the No. 7 equipment it has a capacity of six batteries every twelve hours and sells for $123.50. With the No-Unitron charger it has a capacity of six batteries every twenty-four hours and sells for $89.

Another piece of new equipment by the Allen organization which show visitors will have a chance to see is the E-11 lathe, equipped with a built-on mica undercutter, etc. The E-117 complete electric shop consists of a test bench, mica undercutter and lathe combination, growling armature tester and puller press, priced at $345.

Champion Pneumatic Has a New Compressor Unit

THE Champion Pneumatic Machinery Company, Chicago, will feature at its exhibit at the M. E. A.-N. S. P. A. show in Atlantic City a new model TU-57 two-stage automatic air compressor unit, mounted on a vertical tank. They will also show some new small compressors at popular prices. This latter is a single-stage automatic unit, operated by a quarter-horse power motor with an eighteen-gallon air tank.

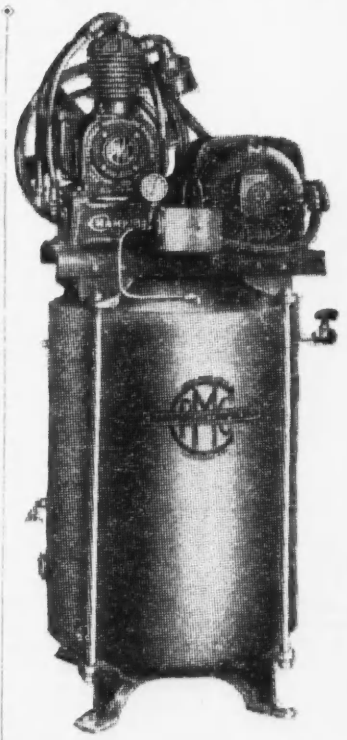
The TU-57 compressors with tanks in a vertical position, having compressor and motor mounted on top of tank, were designed to conserve floor space, and may be installed in a corner or recess. None of the merits of horizontal types have been sacrificed in the production of the upright models.

TU compressors are silent in operation, and vibration has been reduced to a minimum, it is stated. Tanks used are 24 inches in diameter and only 30 inches high; therefore the units are not top-heavy. Only 4¾ square feet of floor space is required.

TU units comply strictly with the A. S. M. E. code, no base plates, tank legs or other parts being welded to the tank. The base plate with its malleable brackets rests on the tank and is held in position by tie rods which are securely bolted to the malleable tank legs. The tank is convex each end, allowing drain to be installed at the lowest point on the tank, meeting A. S. M. E. specifications in this respect also. There is an additional tank drain at one side of the tank which is located high enough from the floor to permit the use of a container in draining. This drain is in plain sight, thereby reminding the user that the tank should be drained occasionally.

Multiple V belt drive is used on all TU models. Overload protection for three-phase motors furnished without any additional charge. When furnished with direct current motor, D. C. automatic starter with time limit acceleration is included.

Automatic pressure switch is set



to maintain a constant tank pressure between 140 and 175 pounds, unless otherwise ordered.

OPERATING NEW FOUNDRY

West Springfield, Mass., Dec. 3.—P. P. Galaski has opened a foundry business under the name of the Atlas Bronze and Aluminum Company at 148 Norman St., West Springfield, where he is operating the foundry owned by the Cogswell Manufacturing Company. Mr. Galaski has been seventeen years in the foundry business, having been with the Bristol (Conn.) Brass Corporation and local foundries.

Many New Mechanical Features on 1932 Chevrolet

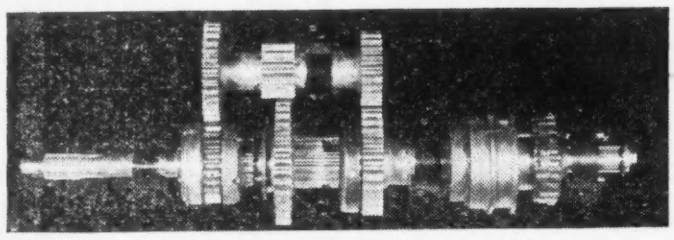
(Continued from Page 8)

locked together as in a conventional drive.

When the driver has set the control button in the "free wheeling" position and shifts into reverse gear, the shifting of the transmission reverse fork automatically moves the clutch sleeve toward the rear, locking the rotating members of the over-running clutch together. This provides positive drive in reverse.

When the driver shifts from reverse into any of the forward speeds, the clutch sleeve automatically releases the over-running clutch into the "free wheeling" position again. This relieves the driver of thinking about shifting into conventional position before shifting into reverse, and it relieves him of shifting into the "free wheeling" position again when shifting into any forward speed.

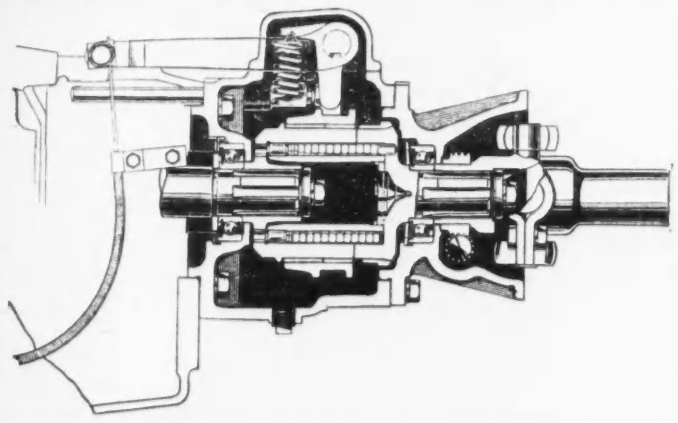
A large push and pull control



SYNCRO-MESH ASSEMBLY of 1932 Chevrolet Six

button is located on the instrument panel just to the right of the steering column, where it is easily accessible to the right hand. When the button is pushed in against the panel, the car is in "free wheeling" position. When the button is pulled out far enough to permit engagement of the three spring-loaded balls in the detnet groove the transmission will operate in the conventional manner.

When locking the over-running clutch, it is necessary to accelerate the engine to coincide with the propeller shaft, and to disengage the engine clutch before pulling out the "free wheeling" button. This precaution prevents clashing of the



OVER-RIDING CLUTCH assembly of 1932 Chevrolet Six

teeth on the clutch sleeve and severe shocking load on the driving parts.

The introduction of this over-running clutch, in combination with synchro-mesh, makes possible easy, noiseless shifting without depressing the clutch pedal.

The entire forward end of the frame has been completely redesigned to give structural strength. The front cross member consists of a single steel stamping drawn, inside of the flanges, into a double channel section having a wide flange at each edge of the channels. The two channels are also tied together by a wide flange.

At the points of attachment to the upper flanges of the side rails, the front cross-member spreads out to the entire width of the blank. Three rivets secure this wide, flat portion to the side rails; and the lower flanges of the side rails are widened sufficiently to contact the flange portions between and at each side of the channel sections by three additional rivets on each side.

This cross member makes the front end of the frame very stiff transversely and provides an ideal means for supporting the front end of the engine and the sheet metal at the front end.

The "double Z" rear engine cross member, with its straddling reinforcing brackets, is an exceedingly rigid structural member of the frame. In combination with the front cross member and the transmission support cross member it provides a very effective transverse engine mounting. Metal is added around its lower rivet holes, and at these points cone-head rivets of a new type secure this member to the side rails. The heads of these rivets spread over a large area, reducing stress due to riveting and prevent the beginning of cracks.

A fifth cross member is introduced under the overrunning clutch housing at the rear of the transmission. This additional cross member provides a fourth engine mounting point; permits effective bracing of the brake cross shaft; forms an extremely rigid member on which to mount the battery hanger and relieves the transmission of torque reactions due to brake application. In addition to these obvious functions, it has an important bearing on the structural strength and rigidity of the frame, reducing body movement in the vicinity of the dash.

The battery hanger, stiffened by longitudinal ribs to provide a rigid support for the entire length of the battery, is securely riveted at its rear end to the web of the transmission support cross member. A bracket supports its front end.

The third cross member and its brackets are more rigid. At its points of attachment to the side rails the cross member swells to a broader channel section, with a stiffer flange at the forward side. The brackets are designed to give a wider spread at their points of attachment to the side rails, providing greater rigidity and preventing cracks at the rivet holes.

Side rails are considerably stiffened at the front spring rear hangers by the addition of embossed grooves or ribs located vertically on each side of the bracket lug. These ribs prevent undue deflection of the side rails at this point and cracks which might result. Large cone-head rivets secure the rear spring front hanger to the lower flange of the side rail.

The transverse engine mountings at the clutch housing are relatively widespread, and, being nearest to the center of mass, support a large portion of the engine weight. The single front mounting point permits the engine to weave a normal amount.

Since the design of the frame members provides ample strength and rigidity, it is unnecessary to impose any deflection strains on engine parts.

This type of mounting is called "diamond" because it provides four points of support—two engine rear supports, one at each side of the clutch housing; one support at the front end of the engine, and one back of the transmission directly under the over-running clutch. The additional rear mounting serves as a steady rest for the overhung weight of the transmission, which has been lengthened, and of the added overrunning clutch.

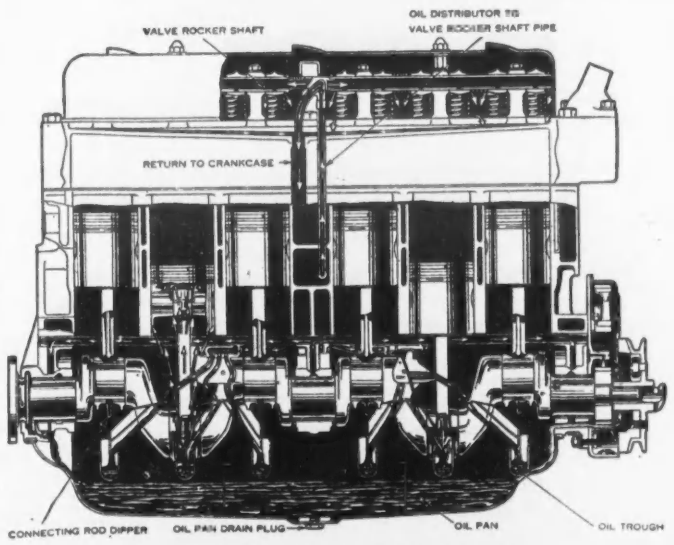
The front axle steering tie rod is improved by a change in the design of the springs. The former spiral springs, which were made of round wire, are replaced by helical springs, made of rectangular section wire. The new springs are designed to exert greater pressure, provide more positive action and prevent shimmy. The spring seats have safety stems to prevent accidental disassembly if the springs should break. This design of springs and seats has been used succesfully in the steering connecting rod.

The outer end of the rear axle has been improved and strengthened by the adoption of a larger axle shaft and wheel bearing, which provide sufficient strength to transmit the additional torque supplied by the more powerful engine. An improved leather packing is used to insure positive seal to prevent leakage of the lubricant.

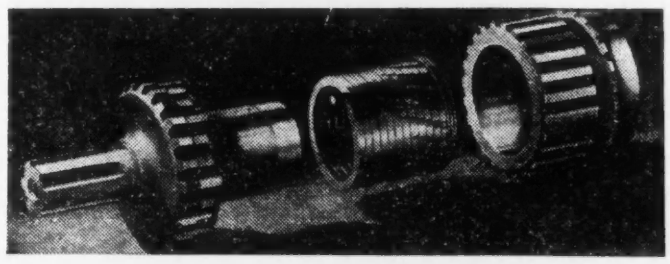
The gasoline gauge has been redesigned during the past season and a baffle plate added to the gas tank—improvements that combine to insure accuracy of the gauge reading and prevent any "flickering" of the dial hand.

Operating controls are rearranged to provide a neater appearance under the hood, and to maintain more secure and definite positions of the connections. On the engine side of the dash a rubber mounting

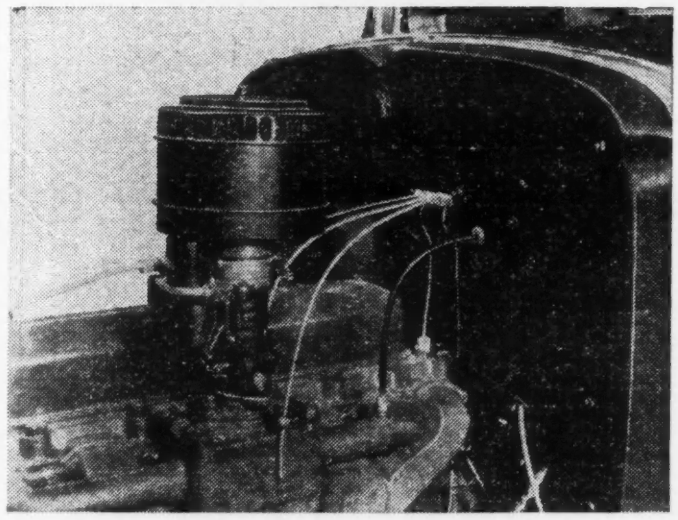
(Continued on Page 11)



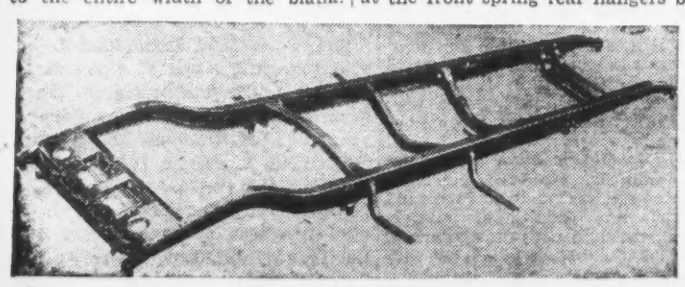
1932 CHEVROLET SIX Lubrication system



THREE MAJOR SECTIONS of 1932 Chevrolet Six over-riding clutch



DOWN-DRAFT CARBURETOR assembly and conduit insulation on 1932 Chevrolet Six



REDESIGNED FRAME of 1932 Chevrolet Six

1932 Chevrolet Specifications in Brief

ENGINE: Six cylinders; valve-in-head type; 3 1/16 inch bore; 3¾ inch stroke.

CYLINDER: Cast on block (including upper half of crankcase); head detachable.

VALVES: 1 29-64 inch diameter intake; 1 11-32 inch diameter exhaust.

CONNECTING ROD BEARINGS: 2 inch diameter, 1⅜ inch long.

CRANKSHAFT: Counter balanced; Harmonic balancer, combined with crankshaft pulley.

CRANKSHAFT BEARINGS: Front 2 1/16 inch diameter by 1¾ inch long; center 2⅛ inch diameter by 2 inch long; rear, 2 5/16 inch diameter by 2⅜ inch long.

CAMSHAFT BEARINGS: Front 1⅜ inch diameter, 1⅜ inch long; center, 1 25-32 inch diameter, 1⅛ inch long; rear, 1⅝ inch diameter, 1 11-32 inch long.

OILING SYSTEM: Positive pressure feed to crankshaft main bearings, camshaft bearings and valve stems; vane type pump in crankcase; oil pressure guage on instrument panel; crankcase ventilator.

CARBURETOR: Down-draft construction. Carter, with accelerating pump and venturi choke; accelerating pump, with closure for weather protection; AC air cleaner, flame arrester and silencer.

FUEL: Mechanical fuel pump; 11-gallon tank in rear; gasoline gauge on instrument panel. Air dome on fuel pump.

IGNITION: Delco-Remy, with high-tension wires waterproofed.

TRANSMISSION: Syncro-Mesh design. Selective type sliding gear; three speeds forward and one reverse; unit power plant construction.

INSTRUMENT PANEL: Indirectly lighted. Includes carburetor heat control, free wheeling control, ammeter, oil gauge, speedometer, theft-proof ignition lock, lighting switch, engine heat indicator, carburetor choke, spark and throttle control, gas gauge.

FREE WHEELING: Simplified expanding coil spring type. Functions in all forward speeds.

CLUTCH: New improved dry single plate. Cushion mounted clutch disc with molded facings. Requires no lubrication.

COOLING: Harrison hexagon core radiator, water pump and fan.

FRONT AXLE: Drop forged I-beam; four New Departure ball bearings in wheels.

REAR AXLE: Semi-floating type; one-piece banjo type pressed steel housings; differential and driving gears in unit.

BRAKES: Four-wheel service internal expanding type, on 11½-inch brake drums front and rear; width of service brake lining, 1½ inches.

WHEELS: Five wire wheels and rear carrier standard equipment, except as specified.

TIRES: 5.25 x 18 balloons.

STEERING GEAR: Semi-reversible; worm and sector type.

SPRINGS: Long chrome-vanadium semi-elliptic type; front, 36 inches, and rear, 54 inches; self-adjusting shackles; Delco-Lovejoy shock absorbers front and rear on all passenger car models.

FRAME: Channel section; 5 inches deep, width of flange, 2¼ inches; stock thickness, 9-64 inch; five sturdy cross members.

WHEELBASE: 109 inches.

EQUIPMENT: All cars equipped with alomite lubricating system; theft-proof ignition lock; complete tool kit; automatic stop light; rear vision mirror; full vision windshield; automatic wiper. Trumpet-type horn; two beam headlamps; parking bulbs on all passenger models. Adjustable sun visor on closed models; adjustable driver's seat in all closed models. Top boot standard equipment on open models.

All prices f. o. b. Flint, Mich. Bumpers and spare tires extra. The right is reserved to change specifications, colors, or prices, without incurring any responsibility with regard to cars previously sold.

TRUCKS PAY $1,500,000

Hartford, Conn., Dec. 3.—Registration fees for motor trucks in Connecticut amount to more than $1,500,000 annually, Edward M. Bird, a former member of the board of governors of the Motor Truck Association of Pennsylvania, told members of the Civitan Club here. He declared that, contrary to popular belief, the motor truck does carry its share of the tax burden.

Free Wheeling and Syncro Mesh Feature '32 Chevrolet

(Continued from Page 10)

block with a hole for each pipe or control conduit is contained in the steel stamping, to insulate the connections from vibration.

On the 1932 models the tire section is larger and the wheel is smaller in diameter. The same general design of riveted spoke wire wheels is retained, but, because of the smaller diameter, the wheels are stronger.

An entirely new method of mounting the front fenders, radiator and headlamps is used on the new car. A single fender support unit holds these parts at a neutral point in the center of the frame front cross-member. This support is insulated from the frame by a rubber cushion and is held in place by two bolts spaced relatively close together at the center.

The front fenders and radiator are mounted on this support and the fenders are secured, one to the other, by means of a rigid headlamp tie-bar. This tie-bar is braced to the radiator structure by a brace attached under the headlamp mounting and extended to the radiator. The radiator shell, which is reinforced, is braced by a "V" brace to the body dash.

This method of mounting permits the usual frame flexibility without any of the resulting movement being transferred directly to the front fenders, headlamps and radiator.

Both front and rear fenders are entirely new in design and have deeper crowns and skirts. The rear fenders have longer rear ends.

The radiator curves inward at the bottom to give the effect of setting down between the fenders. The grille is an integral part of the radiator. It has square meshes stamped in relief with the vertical lines, accented to increase the appearance of height. The entire shell is chromium plated.

Corresponding to the new radiator shape, the hood blends into the cowl contour. The louvres are replaced by four ventilator doors in each side panel. The doors are of pressed steel, with integral hinge members. Stiff wire springs on the inside exert sufficient off-center pressure to keep the doors wide open or fully closed, as desired. The hood doors are manually operated.

Headlamps are in the form of parabolic cones, the diameter being somewhat smaller to increase the effect of greater length. Convex lenses to give better road illumination are fitted.

On sport models cowl lamps, miniature duplicates of the headlamps, are standard equipment.

A high frequency vibrator type horn is mounted just below the left headlamp.

The instrument carrier plate is more rigid and the lenses over the dials of all instruments are convex to eliminate glare and add to the visibility and appearance of the panel.

The 1932 models include a phaeton, roadster, sport roadster, coach, standard sedan, sport sedan, three-window coupe, five-window coupe, sport coupe, landau phaeton, cabriolet and a five-passenger coupe.

In the open models the lines and molding treatment are improved to present a more pleasing appearance.

The windshield, slanted at a greater angle, is of the single-hinge type, with stationary drop-forged side arms. The windshield frame is chromium-plated and the wiper suction pipe is concealed inside.

The phaeton top has a chromium-plated molding at its front. It folds into a very small space. The rear back seat is arranged to pivot forward to proivde space for the storage of side curtains. A carpet kick-pad is built at the back of the front seat.

The roadster top also has a chromium plated molding at its front edge. When folded the top is flush with the body and covered by a close-fitting snap-on cover, which eliminates the usual boot. The seat is more comfortable as the result of its greater angle.

On all closed bodies streamline front has been adopted. The sloping front pillars blend into the curving top. The molding lines are carried along the pillars and along the edge of the top just over the doors and windshield.

The pressed steel front body pillars are increased in strength by a heavier steel reinforcing structure. The external fixed visor is replaced by an internal visor, which is universally adjustable to protect the driver from the glare of the sun.

A large cowl ventilator, controllable from the driver's seat, is added to provide ventilation without opening the windshield.

The left front window regulator in all closed bodies incorporates an equalizer to permit the driver to raise and lower the window with less effort.

Dovetails on all closed body doors are of the ejector type, and door hinges are stronger and heavier. A brass bushing is pressed in the hinge pin hole in the door member, and an oil hole is provided for lubrication. The steel hinge pins are ground round and smooth and are pressed into the body member so that they oscillate in the brass bushings. These hinges are greased under extreme high pressure before the body leaves the factory.

Two hinges are provided instead of three.

Design of the instrument panel has been improved and the top rail of the panel is lower and has a removable ash tray, equipped with a hinged cover, mounted at the center for the convenience of the front seat occupants.

The windshield may be raised and lowered by successive steps; there is a slight resistance at each step.

In the coach, landau phaeton and five-passenger coupe the tool compartment has a two-piece cover. This permits access to either half of the compartment without causing both the driver and the front seat passenger to move. Felt stripping under the cover is designed to prevent rattle.

AUTOMOTIVE PLANTS IN THE BAY STATE SHOW IMPROVEMENT

Springfield, Mass., Dec. 3.—Some improvement along automotive lines is manifest with the opening of the final month of the year. New models soon to be put on the market have been the means of bringing business to several local concerns, and more business of this kind is said to be in prospect.

The toolroom of the United American Bosch Company is busy, and a report that preparations for making the new Ford timer are being rushed is considered encouraging to concerns looking for Ford contracts.

Baush Machine Tool Company's operations have held strong this month on the strength of large orders for drilling machines in automobile plants.

Wico Electric Company is reported as operating on a somewhat improved basis.

At the Rolls-Royce plant, November is reported as the best month for some time in sales and production. This firm is showing new coach models at the Automobile Salon in New York this week, and looks for a favorable reaction.

With the exception of a production increase in oil burners, no change is reported in conditions at the Gilbert & Barker Manufacturing Company. Van Norman Machine Tool Company has slowed down from active operations of the summer in machine tools and automotive equipment. Production of small tools is generally reported as slack, with some improvement forecast for the early part of next year.

Blair Manufacturing Company is running at full capacity on the 1932 line of lawn mowers.

Employment in manufacturing industries in this section and the country as a whole is not expected to show any increase for November over October figures, and may record a further slight recession, with probable improvement in several leading industries after the holidays.

G. M. EXTENDS TRUCK RENTALS TO BALTIMORE

(Continued From Page 1)

president, and Everett C. Scott, associated with Mr. Sterrett for years, is vice-president. Paul W. Seiler, president and general manager of the General Motors Truck Company, is chairman of the board of directors.

Mr. Fisher, selected from the main offices of the truck company in Pontiac as manager, has been associated directly with the company for the past year as special representative. Before that he was in charge of truck and bus sales in South America for the General Motors Export Corporation, and prior to that he was connected with the New York branch of the General Motors Truck Company. For a time he was general sales manager of the Standard Motor Truck Company, Detroit. Continuing its operations as a factory branch, handling the sale and servicing of all GMC units in the Baltimore area, the extension of the business of the Baltimore branch to include Sterrett operation marks a long step forward in the development of the truck leasing plan, and meets a distinctive need on the part of business firms needing trucks in the conduct of their business.

Under the Sterrett Operating Service System, all standard models of the GMC line will be provided for leasing, permitting a company to have full trucking service without the necessity of investing its own capital. Through a lease agreement, trucks are provided for a company's use, painted in whatever manner desired, with the company's name or trade mark, completely serviced, provided with gas and oil, tires, repairs and kept in the best of condition at all times.

All trucks are protected by insurance and licenses are provided so that the only expense to the leasing company over the lease price is the pay of the driver. When not in use the trucks are housed in the garages of the Sterrett Operating Service.

Engineering service is given by the company, such as surveying the business to devise the most economical system of operation, while extra trucks are provided when needed at peak times, thus doing away with the need of the leasing company maintaining extra units.

Complete tire and roadside service is provided by the operating service, while emergency equipment is ready at all times in case one of the leased trucks is out of service due to accident, painting, repairs or overhauling.

INDIANAPOLIS TO STAGE WINTER SAFETY CAMPAIGN

Indianapolis, Ind., Dec. 3.—A winter safety campaign, during which state police will intensify their checking of automobile lights, brakes, titles and licenses, is being planned by the state Police Department to begin soon. This is one of the most effective methods in reducing accidents and increasing safety on the state highways, it was said. Similar campaigns have been conducted by the constabulary intermittently throughout the year with far-reaching results.

This work will be carried on at various locations when road and weather conditions do not permit the intensive road patrolling developed this year, and will be preceded by a broadside appeal to the public to put its vehicles in safe driving condition.

CANADIAN FORD CO. PASSES DIVIDEND

Toronto, Canada, Dec. 3.—Ford Motor Company of Canada, Ltd., has informed stockholders that the regular December semi-annual dividend would not be paid. The last semi-annual disbursement on Ford Motor of Canada A stock was at the rate of 60 cents a share. The dividend payments are to be resumed as soon as conditions warrant.

LEASES SERVICE STATION

Springfield, Mass., Dec. 3.—The Shell Oil Company has signed a ten-year lease on property at 470 Belmont Ave., at a cost of $30,000. The Shell Company will erect a modern service station there.

N. A. C. C. Predicts Industry Is Headed for an Upturn

(Continued From Page 1)

mobile shows in New York at the Grand Central Palace, January 9 to 16, and in Chicago at the Coliseum, January 30 to February 5, were outlined by Manager S. A. Miles, who predicted that public interest in the exhibits is exceeding that of last year.

John N. Willys, United States ambassador to Poland, and former president of Willys-Overland, Inc., was a guest of the directors at the meeting.

Following the meeting the directors inspected the exhibits at the New York Automobile Salon at the Commodore.

Directors of the chamber who were in attendance included Alvan Macauley (Packard), president; A. J. Brosseau (Mack), E. L. Cord (Auburn), Roy D. Chapin (Hudson), Robert C. Graham (Graham-Paige), Charles D. Hastings (Hupmobile), L. A. Miller (Willys-Overland), Fred J. Haynes, Robert P. Page, Jr. (Autocar), and T. R. Dahl (White).

October Parts Shipments Off; Accessories Gain

NEW YORK, Dec. 3.—Increases in shipments of accessories and service equipment to wholesalers in October were more than offset by decreases in shipments of original equipment and in shipments of service parts to wholesalers, according to the Motor and Equipment Association.

Index of all shipments by members of the association in October stood at 54 per cent. of the January, 1925, base of 100, as compared with 67 per cent. in September, 79 per cent. in August and 86 per cent. in October, 1930.

The following table compares October shipments of the various classifications, measured in per cent. of the January, 1925, base of 100:

	Oct., 1931	Sept., 1931	Oct., 1930
Original equipment	37	54	75
Wholesale service parts	129	138	140
Wholesale accessories	80	66	79
Wholesale service equipment	69	67	99

CO-ORDINATION IN TRANSPORT IS NEEDED—FENNER

New Britain, Conn., Dec. 3.—Application of each transport facility to that phase of distribution where it functions with maximum efficiency and not the enactment of legislation which discriminates against the public by increasing distribution costs is the logical solution of our transportation problem, declared D. C. Fenner, chairman of the motor vehicle conference division, who spoke last night before the New Britain Traffic Association. Mr. Fenner is vice-president of Mack Trucks, Inc.

"Because we have a surplus of certain types of facilities and an insufficient number of other types, we lose several billion dollars annually in wasteful distribution," stated Mr. Fenner, whose subject was "The Manufacture of Transportation."

"We must eliminate duplication of effort, cut down the expense of idle equipment, reorganize routing and reduce the time lost at points of transfer if we are to have a transportation program which will afford superlative efficiency of service at the lowest possible cost."

As an example of "gross mismanagement," the speaker pointed to railroad passenger service where rail train miles have been maintained at almost constant volume in the past decade, despite the fact that public "consumption" of private automobile passenger miles increased from 65,000,000,000 in 1920 to 403,000,000,000 in 1930. In that period rail passenger revenues dropped off nearly $559,000,000, he said.

"While present indications are that we are gradually working towards a distribution system that will meet with the heary approval of shippers, economic welfare demands that this trend towards efficiency be expedited," he said.

"This can be done by a complete inventory-taking of the transportation facilities on hand. Past experiences will provide the basis of information as to where equipment can be entirely discarded or where, in the interests of economy and expedited service, a certain facility can be replaced by another."

Disclaiming railroad statements that commercial vehicle transportation is subsidized by the government, Mr. Fenner declared that "we would have had our 700,000 miles of surfaced highways if there had never been any trucks or buses, but since this public property affords an expeditious and economical service, boosting the tax payment on the commercial vehicles will serve only to raise the cost of transportation and reduce the value of the consumer's dollar.

"The fact is that commercial vehicles in 1930 paid $270,000,000, or 27 per cent. of the total motor vehicle tax bill, though they represented but 13 per cent. of all motor vehicle registration. In the opinion of United States road engineers, the higher taxes paid by the heavier commercial vehicles adequately cover the cost of the use they make of the roads."

NEW YORK & CHICAGO
Show Issues
Automotive Daily News
PUBLICATION DATES

NEW YORK	CHICAGO
Saturday, January 9	Saturday, January 30
Monday, January 11	Monday, February 1
Tuesday, January 12	Tuesday, February 2
Wednesday, January 13	Wednesday, February 3
Thursday, January 14	Thursday, February 4
Friday, January 15	Friday, February 5

Write for literature giving details of extra distributions at hotels, at the show, dealer meetings, conventions, etc., also extra mailings to dealers, jobbers, fleet owners, etc.

Closing Dates: Two days preceding dates shown. On advance notice giving exact size of space copy will be accepted up to 9 a. m. one day preceding.

Announcing a **NEW** **CHEVROLET SIX**

THE GREAT AMERICAN VALUE FOR 1932

★

Silent Syncro-Mesh shift

Simplified Free Wheeling

Improved six-cylinder engine

60 horsepower (20% increase)

65 to 70 miles an hour

Faster, quieter getaway

Smoother operation

Smarter Fisher Bodies

Greater comfort and vision

Unequalled economy

THE *new Chevrolet Six comes out today!* Its appearance strikes a smart new note in motor car styling. Its performance combines the greatest thrills of modern motoring. Its new features include many of the important developments in engineering and craftsmanship. It actually *looks*, *feels*, *controls* and *performs* like nothing you have ever associated with low price before. To develop such an automobile at such low prices, Chevrolet has utilized every advantage of its present position as the world's largest builder of automobiles. And Chevrolet presents this new car—proud in the knowledge that it represents the *Great American Value for 1932.* During 1931, Chevrolet dealers sold more cars than any other dealer organization in the industry. In the new Chevrolet Six, they will offer an appreciative public a car that eclipses in every way the immensely popular 1931 model, yet sells at the same low prices. Naturally Chevrolet dealers expect 1932 to be one of the biggest years in Chevrolet's history.

Chevrolet Motor Company, Detroit, Michigan, Division of General Motors

PRICED AS LOW AS **$475** F.O.B. FLINT, MICH.

On display today, Saturday, December 5th